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# WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.



#### TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

#### PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

| STATE              | ADDRESS  |
|--------------------|--|
| Alaska             | P. O. Box "F", Palmer, Alaska 99645                    |
| Arizona            | 6029 Federal Building, Phoenix, Arizona 85205          |
| Colorado (N. Mex.) | 12417 Federal Building, Denver, Colorado 80202         |
| ldaho              | P. O. Box 38, Boise, Idaho 83707                       |
| Montana            | P. O. Box 98, Bozeman, Montana 59715                   |
| Nevada             | P. O. Box 4850, Reno Nevada 89505                      |
| Oregon             | 1218 S. W. Washington St., Portland, Oregon 97205      |
| Utah               | 4012 Federal Building, Salt Lake City, Utah 84111      |
| Washington         | 360 Federal Office Building, Spokane, Washington 99201 |
| Wyoming            | P. O. Box 340, Casper, Wyoming 82602                   |

#### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

CONSERVATION OF WATE

# WATER SUPPLY OUTLOOK FOR OREGON

and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

JUNE 8, 1968

Issued by

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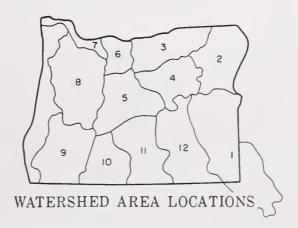
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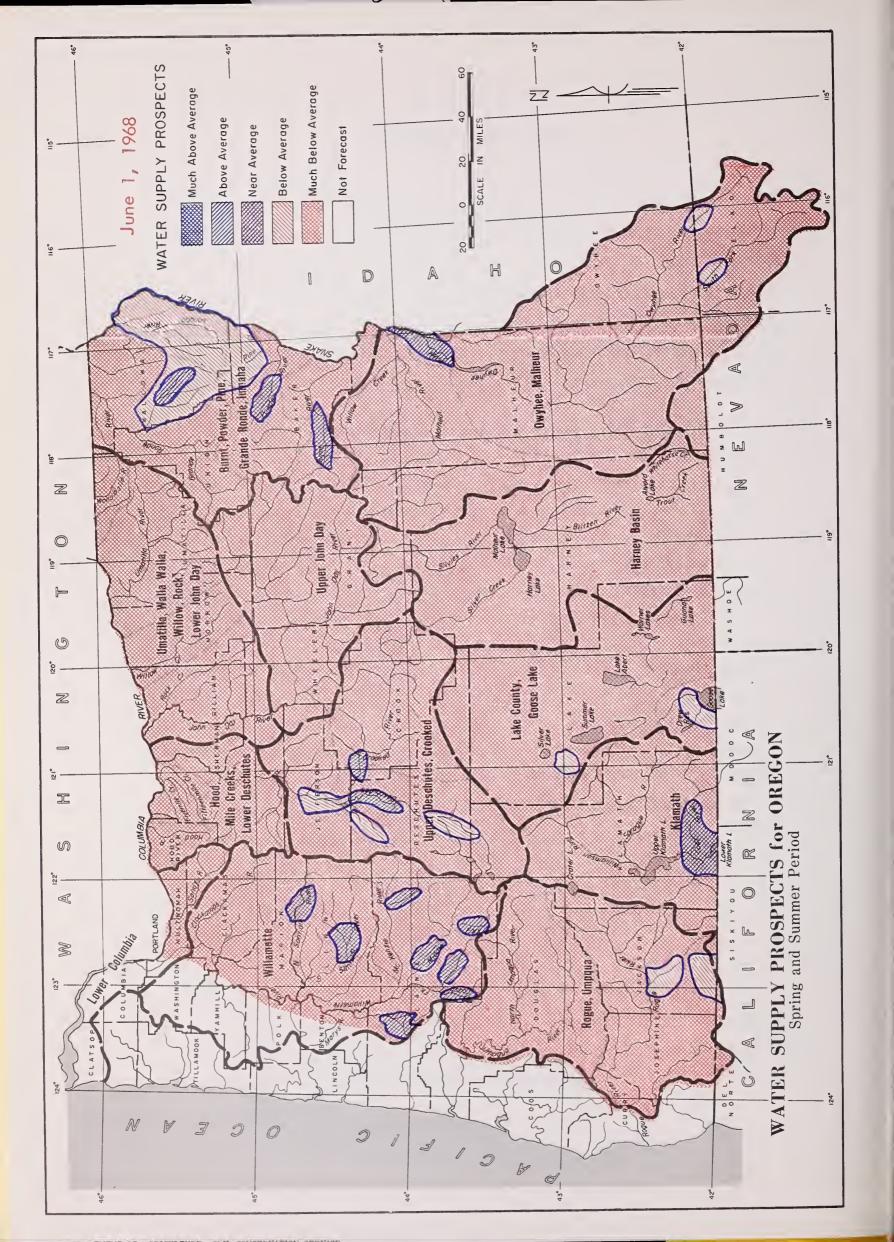
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# WATER SUPPLY OUTLOOK for OREGON

June 1, 1968

Generous but long-overdue precipitation in the last half of May was welcomed by most Oregon water users but will provide only a brief relief from extreme water shortages. Levels of Western Oregon streams received a much-needed "boost," and both dry-farming and irrigation operations were temporarily helped, but no significant increase in flow is seen for Eastern Oregon streams already at record-low levels. The water situation remains critical in most of Oregon.

#### PRECIPITATION and SNOW COVER

Precipitation, state-wide, from September 1, 1967 to May 1, 1968 averaged 71 percent of the normal with 83 to 91 percent west of the Cascades. East of the mountains it ranged as low as 50 to 54 percent in Klamath, Deschutes and Crook Counties. May brought normal precipitation along the Cascades and as low as 49 percent in the John Day and Harney Basins. Snow cover vanished several weeks ago except for patches on the high peaks and ridges.

#### SOIL MOISTURE

Soil moisture improved greatly west of the Cascades in the last two weeks but state-wide it is less than last year because of the greater than usual amount of cool winds.

#### RESERVOIR STORAGE

Stored water supplies in 26 Oregon irrigation reservoirs on June first totaled 1,827,800 acre feet or 74 percent of the 15-year average (1948-62). This is 670,700 acre feet less water than was in storage a year ago. Irrigation water supplies will be critically short except for lands served from Upper Klamath Lake, Gerber and Clear Lake in Klamath County; Lake Owyhee in Malheur County; Unity Reservoir in Baker County; Wallowa Lake in Wallowa County and Prineville in Crook County.

#### continued--

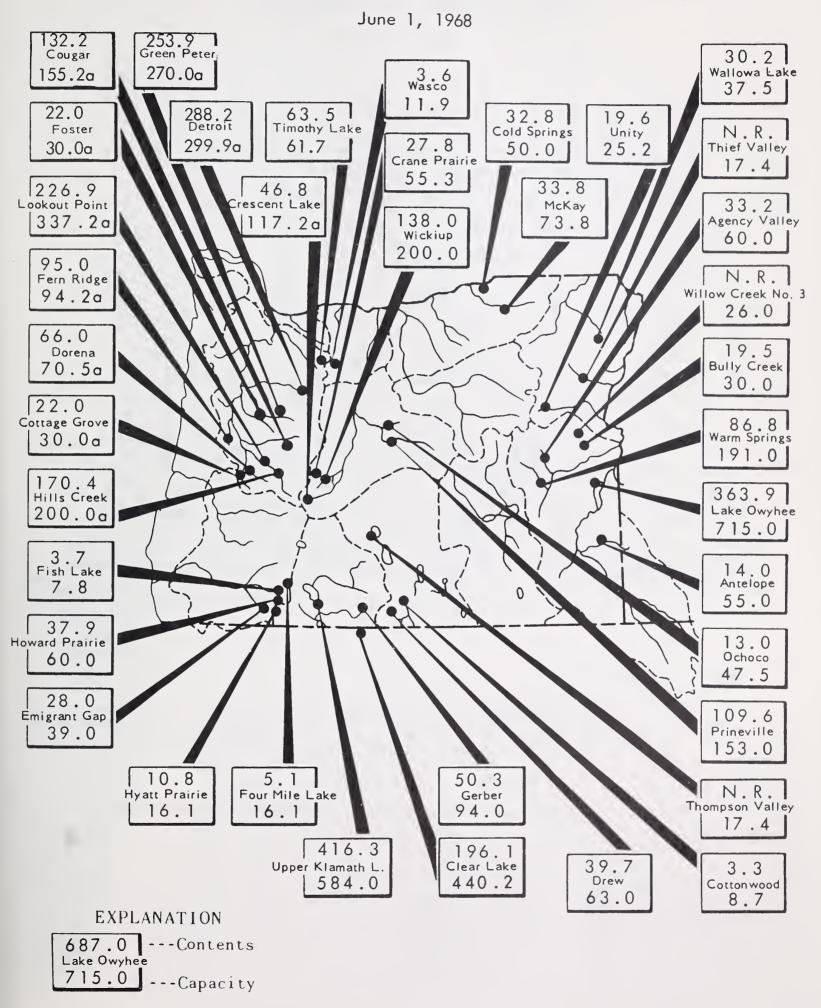
#### STREAMFLOW

The following streamflow forecasts are compared with the 15-year average flows (1948-62):

| Stream Station               | Period    | Acre Feet | Percent Average |
|------------------------------|-----------|-----------|-----------------|
| Lake Owyhee Inflow           | May-Sept. | 32,000    | 17              |
| Malheur R. nr. Drewsey       | May-Sept. | 3,200     | 9               |
| Burnt R. near Hereford       | May-Sept. | 4,000     | 22              |
| Powder R. near Baker         | May-Sept. | 16,000    | 36              |
| Lostine R. nr. Lostine       | Apr-Sept. | 109,000   | 83              |
| Grande Ronde at La Grande    | May-Sept. | 32,000    | 26              |
| South Fk. Walla Walla R.     | May-Sept. | 36,000    | 62              |
| Umatilla R. at Pendleton     | May-Sept. | 29,000    | 30              |
| John Day R. at Prairie City  | Apr-Sept. | 20,000    | 39              |
| Crooked River near Post      | May-Sept. | 5,000     | 10              |
| Deschutes R. at Benham Falls | May-Sept. | 260,000   | 48              |
| Hood R. near Hood River      | May-Sept. | 140,000   | 50              |
| Willamette R. at Salem       | Apr-Sept. | 2,950,000 | 53              |
| Rogue R. at Raygold          | May-Sept. | 370,000   | 51              |
| Klamath Lake Inflow          | May-Sept. | 235,000   | 54              |
| Chewaucan R. near Paisley    | Apr-Sept. | 40,000    | 45              |
| Drews Reservoir Inflow       | May-Sept. | 2,000     | 18              |
| Silvies R. near Burns        | Apr-Sept. | 15,000    | 15              |
| Blitzen R. near Frenchglen   | Apr-Sept. | 15,000    | 24              |



# STORAGE STATUS of OREGON RESERVOIRS usable contents in thousands of acre feet



<sup>(</sup>a) Multiple purpose reservoir - space reserved for flood runoff. N. R. - No report.

# MOUNTAIN SOIL MOISTURE in OREGON as percent of capacity

June 1, 1968

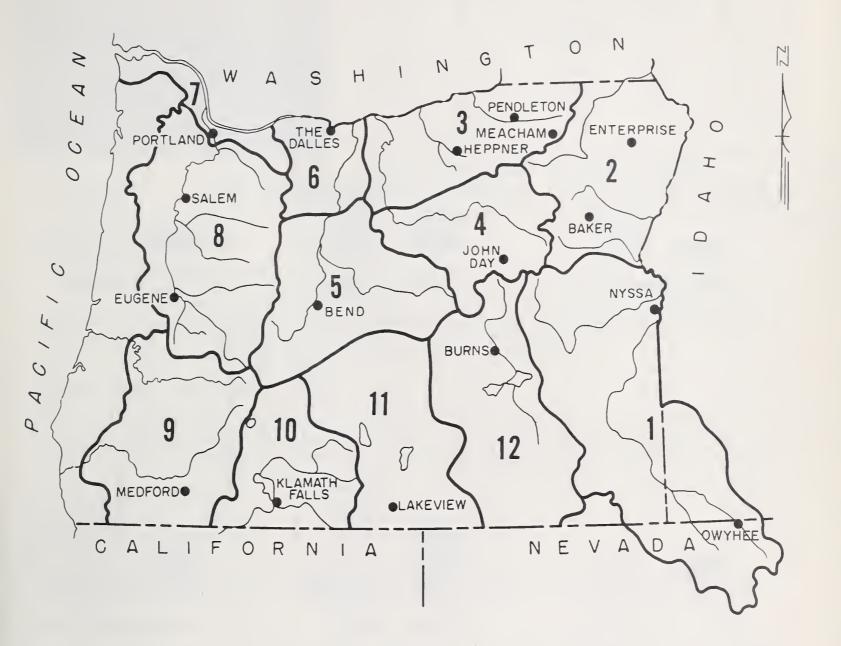


Soil Moisture Station

\*Moisture studies not yet developed in these areas.

# VALLEY PRECIPITATION in OREGON a

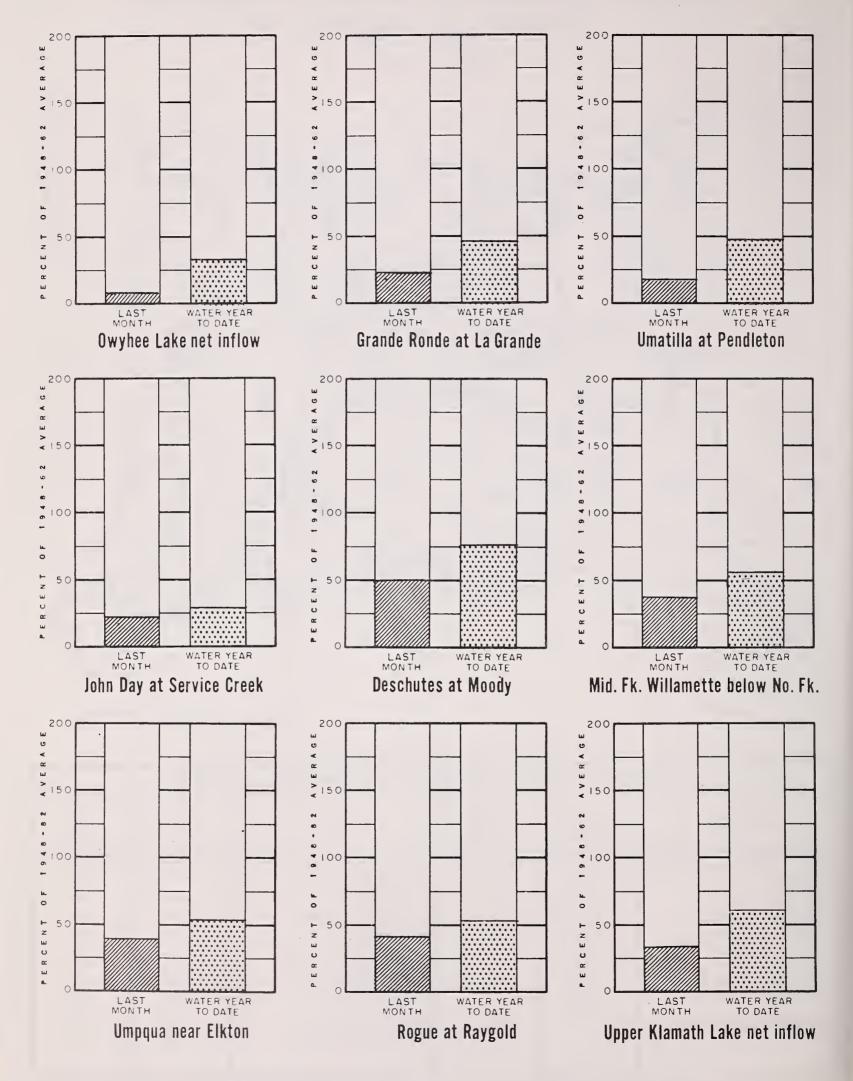
June 1, 1968



| PRE   | CIPITATION                               | as PERCE                                     | NT of the 1948-62 AV   | ERAGE   |  |
|---|--|--|--|---|--|
| STATION   | LAST<br>MONTH                            | WATER b<br>YEAR<br>TO DATE                   | STATION  | L A S T<br>MON T H                                    | WATER b<br>YEAR<br>TO DATE                         |
| BAKER BEND BURNS ENTERPRISE EUGENE APT. HEPPNER JOHN DAY KLAMATH FALLS APT. | 29<br>47<br>115<br>89<br>132<br>64<br>53 | 72<br>49<br>76<br>84<br>87<br>57<br>59<br>53 | LAKEVIEW MEACHAM MEDFORD APT. NYSSA PENDLETON APT. POPTLAND APT. SALEM APT. THE DALLES OWYHEE (NEV.) | 119<br>79<br>71<br>65<br>43<br>165<br>152<br>92<br>70 | 86<br>90<br>76<br>75<br>50<br>89<br>92<br>62<br>81 |

# CURRENT OREGON STREAMFLOW

June 1, 1968





# WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

*as of*JUNE 1, 1968

# U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in thirty-five years are expected for Malheur County water users this summer, with local stream levels already at the record-low of 1934. Water will be barely sufficient only for lands served from Lake Owyhee reservoir. Lands served from Warmsprings, Agency Valley and Bully Creek reservoirs will likely be out of water by about September first. Jordan Valley Irrigation District will be "out of water" even earlier.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been only three-fourths of the average according to data provided by the U.S. Weather Bureau. In the month of May the precipitation was about one-third less than the normal.

Snow has long since vanished except where drifts and patches remain on high peaks and ridges.

#### RESERVOIR STORAGE

Antelope reservoir held about 14,000 acre feet on June first compared with 55,000 acre feet at this time last year. No information has been received concerning storage in Willow Creek #3 reservoir.

Water held in Warmsprings, Agency Valley and Bully Creek Reservoirs totaled 139,500 acre feet on June first compared with 214,300 acre feet a year ago. Flow of streams entering these reservoirs has now fallen to levels close to the critical year of 1934.

Lake Owyhee held 363,900 acre feet at the end of May, compared with 479,000 acre feet at this time last year. This is a barely sufficient supply for lands served from this source.

#### STREAMFLOW

Inflow to Lake Owyhee during May was only one-tenth of the usual amount.

Expected streamflow in Malheur County, May 1 through July 30, is forecast as follows:

| Stream               | Acre Feet | Percent of 15-Year Average |
|----------------------|-----------|----------------------------|
| Jordan Creek         | 8,000     | 16                         |
| Owyhee Inflow        | 25,000    | 15                         |
| Malheur near Drewsey | 3,000     | 9                          |
| Malheur at Beulah    | 12,000    | 36                         |

W.T. FROST AND TOM GEORGE

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## WATER SUPPLY OUTLOOK expressed os "Poor", "Fair" "Average" or "Excellent"

# RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

| STREAM or AREA   | FLOW I                      | PERIOD  |
|--|-----------------------------|---|
| STREAM OF AREA   | SPRING SEASON               | LATE SEASON   |
| Boulder Creek Bully Creek Cow Creek Jordan Creek Jordan Valley Irrig. Dist. McDermitt Creek Oregon Canyon Creek Owyhee Project Succor Creek Tenmile Creek Vale-Oregon Irrig. Dist. Warmsprings Irrig. Dist. Willow Creek (Reservoired) | Spring peak flows are past. | Poor Poor Poor Poor Poor Poor Poor Avg. Poor Fair Fair Fair |

| RESERVOIR   | USABLE   | MEASUR                                     | ED (First o                            | f Month)                                    |
|---|--|--|--|---|
| RESERVOIR   | CAPACITY                                       | THIS YEAR                                  | LAST YEAR                              | 1948-62<br>AVERAGE                          |
| Agency Valley Antelope Bully Creek Owyhee Warmsprings Willow Creek #3 | 60.0<br>55.0<br>30.0<br>715.0<br>191.0<br>26.0 | 33.2<br>14.0<br>19.5<br>363.9<br>86.8<br>6 | 54.0<br>55.0<br>25.5<br>480.2<br>134.8 | 50.2<br>35.0 <sup>m</sup><br>545.3<br>124.1 |

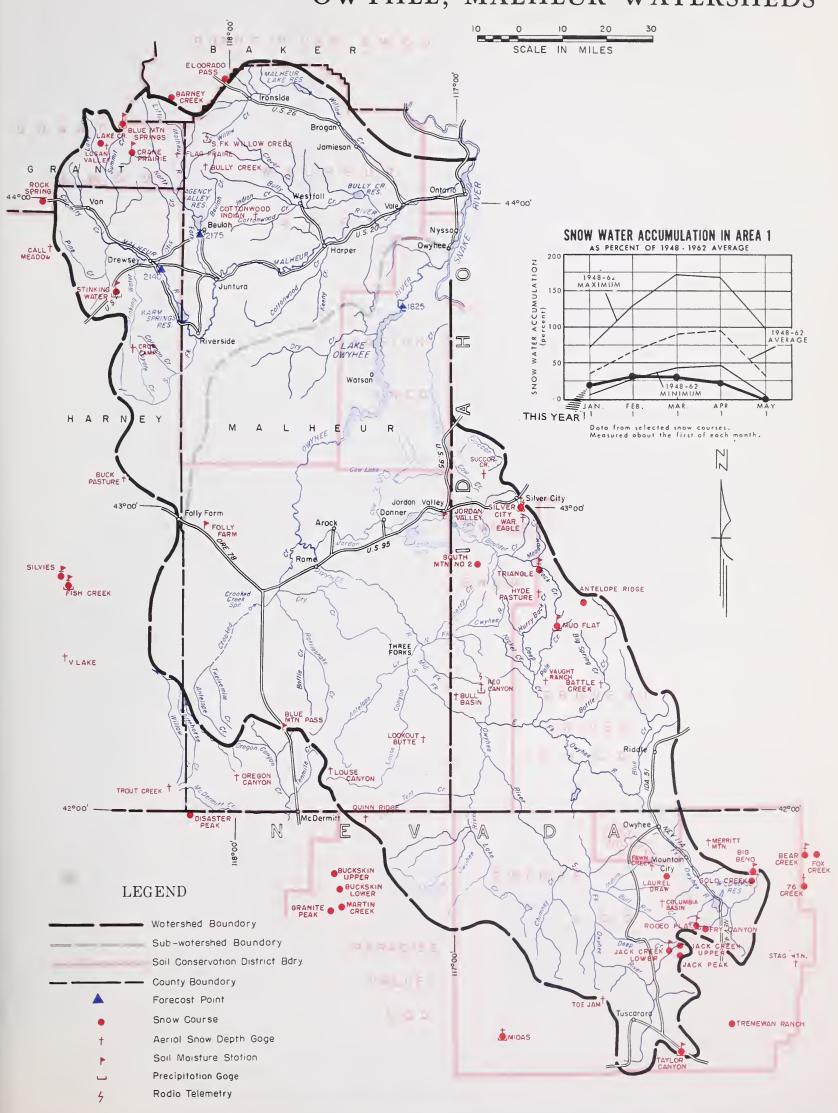
#### STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.                          | FORECAST POINT NAME  | FORECAST<br>THIS YEAR                         | FORECAST PERIOD   | 1948-62<br>AVERAGE                         | THIS YEAR AS PERCENT OF AVERAGE      |
|------------------------------|--|---|---|--|--------------------------------------|
| 1780<br>2140<br>2175<br>1825 | Jordan Creek above Lone Tree Creek Malheur near Drewsey  Malheur, North Fork at Beulah <sup>d</sup> Owyhee Reservoir net Inflow <sup>k</sup> | 8.0<br>3.0<br>3.2<br>12.0<br>14.5<br>25<br>32 | May-July May-July May-Sept. May-July May-Sept. May-July May-Sept. | , 50<br>34<br>35<br>33<br>38<br>168<br>186 | 16<br>9<br>9<br>36<br>38<br>15<br>17 |

| SOIL MOISTURE  |  | PROFILE  | (Inches)  |   | SOIL MOISTU  | RE (Inches)                |         |
|--|--|--|---|---|--|----------------------------|---------|
| STATION  |  | DEPTH  | CAPACITY  | DATE  | THIS   | LAST                       | 2 YEARS |
| NAME   | ELEVATION  |  |   |   | YEAR   | YEAR                       | AGO     |
| Bear Creek (Nev.) Big Bend (Nev.) Blue Mtn. Springs Crane Prairie Folly Farm Jack Cr., Lower (Nev.) Jordan Valley Mud Flat (Ida.) Rodeo Flat (Nev.) Stinking Water Summit Taylor Canyon (Nev.) Triangle (Ida.) | 7800<br>6700<br>5900<br>5375<br>4450<br>6800<br>4390<br>5500<br>6800<br>4800<br>6200<br>5150 | 72<br>48<br>42<br>48<br>30<br>48<br>48<br>48<br>42<br>48<br>42<br>48 | 16.8<br>16.7<br>16.9<br>18.2<br>12.5<br>8.6<br>14.8<br>12.8<br>11.0<br>21.9<br>15.1<br>16.6 | 6 5/3/68 5/31/68 6 4/30/68 6/4/68 6 5/3/68 6 4/30/68 6/ | 16.4<br>12.2<br>18.0<br>8.3<br>10.3<br>10.9<br>f<br>14.6 | 15.9 f<br>13.1<br>18.0<br> |         |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

# OWYHEE, MALHEUR WATERSHEDS



Owyhee, Malheur Watersheds

"The Conservation of Water begins with the Snow Survey"



# WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS OREGON

as of
JUNE 1, 1968

#### U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY · · · OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Baker, Union and Wallowa County water users this summer. Most local stream levels will equal the record-low figures experienced in the early "thirties." The only exceptions are those streams flowing directly from the Wallowa Mountains which will vary from 60 to 86 percent of the 15-year average. Lands served from Unity Reservoir and Wallowa Lake will have barely sufficient water this season. All other areas will have extreme shortages.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been only slightly better than half of the usual amount, except in the Wallowas where amounts are only one-fifth under the average according to data provided by the U.S. Weather Bureau. In the month of May precipitation was slightly better than half of the average.

Snowpacks have vanished except for that remaining on higher peaks and ridges.

#### RESERVOIR STORAGE

Unity Reservoir held about 19,600 acre feet at the end of May compared with 24,700 acre feet at this time last year.

Wallowa Lake still held 30,200 acre feet at the end of May. This is much more than the 22,300 acre feet held a year ago at this time.

#### STREAMFLOW

Expected streamflow for the remainder of the season is forecast as follows:

| Stream Station            | Period    | Acre Feet | Percent Average (1948-62) |
|---------------------------|-----------|-----------|---------------------------|
|                           |           |           |                           |
| Burnt R. near Hereford    | May-June  | 3,400     | 21                        |
| Powder R. near Baker      | May-July  | 15,000    | 3 4                       |
| Eagle Cr. above Skull Cr. | May-July  | 100,000   | 7 2                       |
| Grande Ronde - La Grande  | May-July  | 30,000    | 25                        |
| Catherine Cr. nr. Union   | May-Sept. | 35,000    | 60                        |
| Bear Cr. near Wallowa     | May-Sept. | 40,000    | 66                        |
| Lostine R. nr. Lostine    | AprSept.  | 109,000   | 83                        |
| Hurricane Cr. nr. Joseph  | AprSept.  | 40,000    | 8 3                       |
| East Fork Wallowa         | May-July  | 7,600     | 86                        |
| Imnaha R. at Imnaha       | AprSept.  | 250,000   | 7 9                       |

# WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

#### RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

| STREAM or AREA  | FLOW PERIOD                 |  | RESERVOIR                       | USABLE               | MEASUR            | ED (First o      | f Month)           |
|---|-----------------------------|--|---------------------------------|----------------------|-------------------|------------------|--------------------|
| STREAM OF AREA  | SPRING SEASON               | LATE SEASON  | RESERVOIR                       | CAPACITY             | THIS YEAR         | LAST YEAR        | 1948-62<br>AVERAGE |
| Alder Slope Baker Valley Big Creek Clover Cr. (nr. N. Powder) Cove Durkee Eagle Valley Elgin Enterprise-Joseph Hereford-Bridgeport Imnaha River LaGrande-Island City Lostine-Wallowa No. Powder River-Wolf Cr. Pine Valley Powder River-Elk Creek Summerville Sumpter Valley Union-Hot Lake Unity | Spring peak flows are past. | Fair Poor Poor Poor Poor Poor Poor Average Average Fair Poor Fair Poor Foor Poor Poor Poor Poor Poor | Thief Valley Unity Wallowa Lake | 17.4<br>25.2<br>37.5 | 8<br>19.6<br>30.2 | <br>24.7<br>22.3 | 22.6<br>27.2       |

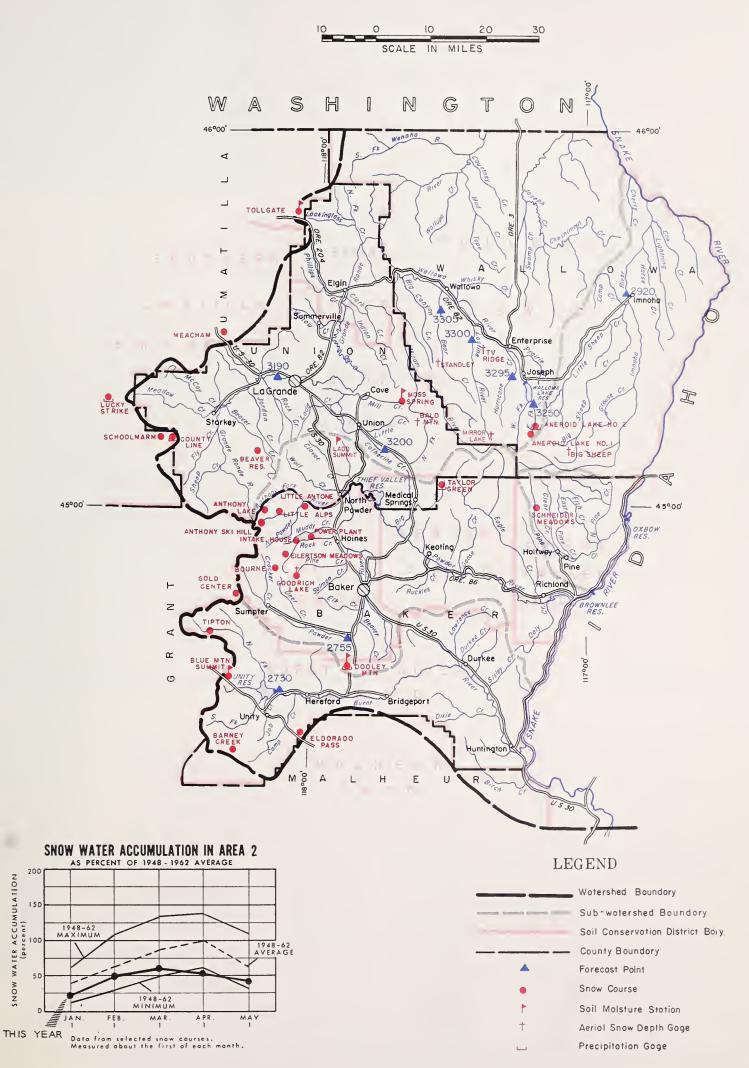
## STREAMFLOW FORECASTS a(1,000 Ac. Ft.) as of June 1, 1968

| NO.  | FORECAST POINT NAME   | FORECAST<br>THIS YEAR   | FORECAST PERIOD   | 1948-62<br>AVERAGE  | THIS YEAR<br>AS PERCENT.<br>OF AVERAGE <sup>1</sup>                              |
|--|---|---|---|---|--|
| 3305<br>2730<br>3200<br>2882<br>3190<br>3295<br>2920<br>3300<br>2755<br>3250 | Bear near Wallowa Burnt near Hereford d  Catherine near Union Eagle Creek above Skull Creek  Grande Ronde at La Grande  Hurricane Creek near Joseph Imnaha at Imnaha Lostine near Lostine Powder River near Baker  Wallowa, East Fork near Joseph | 40<br>3.4<br>4.0<br>35<br>100<br>111<br>30<br>32<br>40<br>250<br>109<br>15<br>16<br>7.6<br>10.0 | May-Sept. May-June May-Sept. May-Sept. May-July May-Sept. April-Sept. April-Sept. April-Sept. May-July May-July May-July May-Sept. May-July May-Sept. | 61<br>16.0<br>17.8<br>58<br>139<br>154<br>118<br>121<br>48<br>318<br>131<br>44<br>45<br>8.8 | 66<br>21<br>22<br>60<br>72<br>72<br>25<br>26<br>83<br>79<br>83<br>34<br>36<br>86 |

| OIL MOISTURE     | PROFILE   | (Inches)       |          | SOIL MOISTUR | RE (Inches)       |         |      |
|------------------|-----------|----------------|----------|--------------|-------------------|---------|------|
| STATION          |           | DEPTH CAPACITY | DATE     | THIS         | LAST              | 2 YEARS |      |
| NAME             | ELEVATION |                | JAI AUTT | 5/112        | YEAR              | YEAR    | AGO  |
| Blue Mtn. Summit | 5100      | 36             | 16.8     | 5/31/68      | 13.2              | 16.0    | 12.3 |
| Dooley Mountain  | 5430      | 36             | 9.2      | 5/31/68      | 5.7               | 5.7     | 4.0  |
| Emigrant Springs | 3925      | 48             | 22.3     | 4/30/68      | 20.6 <sup>f</sup> |         | 18.0 |
| Ladd Summit      | 3730      | 48             | 18.9     | 5/29/68      | 9.3               | 12.8    | 9.2  |
| Moss Springs     | 5850      | 42             | 25.8     | 5/29/68      | 16.4              |         |      |
| Tollgate         | 5070      | 48             | 23.6     | 5/29/68      | 18.4              | 19.4    | 18.5 |
|                  |           |                |          |              |                   |         |      |
|                  |           |                |          |              |                   |         |      |
|                  |           |                |          |              |                   |         |      |
|                  |           |                |          |              |                   |         |      |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



| NOW         |           | CUR     | RENT INFORMA | TION                         | PAST R     | ECORD              |
|-------------|-----------|---------|--------------|------------------------------|------------|--------------------|
| SNOW COURSE |           | DATE OF | SNOW DEPTH   | WATER                        | WATER CONT | ENT (Inche         |
| NAME        | ELEVATION | SURVEY  | (Inches)     | WATER<br>CONTENT<br>(Inches) | LAST YEAR  | 1948-62<br>AVERAGE |
| Tollgate    | 5070      | 6/1     | 0            | 0.0                          | 0.0        |                    |
|             |           |         |              |                              |            |                    |
|             |           |         |              |                              |            |                    |
| -           |           |         |              |                              |            |                    |
|             |           |         |              |                              |            |                    |
|             |           |         |              |                              |            |                    |
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|             |           |         |              |                              |            |                    |
|             |           |         |              |                              |            |                    |
|             |           |         |              |                              |            |                    |



# WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS OREGON

as of

JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Umatilla, Morrow and Gilliam County water users this summer. Most streams in this area have already dropped to record-low levels experienced in the early "thirties." Available water in McKay and Cold Springs Reservoirs will be insufficient for a complete irrigation season. All other areas will have extreme shortages.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been only slightly better than half of the usual amount. May brought only 72 percent of the average according to the U.S. Weather Bureau.

Mountain snowpacks vanished 20 to 40 days ago. Soils have dried out considerably but did receive some moisture in recent storms.

#### RESERVOIR STORAGE

Cold Springs reservoir held 32,800 acre feet on June first compared with 50,000 a.f. a year ago. McKay reservoir held 33,800 acre feet compared with 56,400 a.f. last year at this time.

#### STREAMFLOW

Flow of the Umatilla River at Pendleton was reported at 13,000 acre feet or only 20 percent of the average for May according to the U.S. Geological Survey.

Expected streamflow for the remainder of the season is forecast as follows:

| Stream                  | Period    | Acre Feet | Percent Average (1948-62) |
|-------------------------|-----------|-----------|---------------------------|
| Walla Walla, North Fork | May-July  | 2,700     | 2 4                       |
| Walla Walla, South Fork | May-July  | 26,000    | 59                        |
| Umatilla at Pendleton   | May-July  | 25,000    | 27                        |
| McKay Creek             | May-Sept. | 2,000     | 1 4                       |
| Butter Creek            | May-July  | 800       | 17                        |

## WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

|  | FLOW PERIOD                 |   | 5565574045         | USABLE       | MEASUR    | ED (First o | f Mont |
|--|-----------------------------|---|--------------------|--------------|-----------|-------------|--------|
| STREAM or AREA   | SPRING SEASON               | LATE SEASON                             | RESERVOIR          | CAPACITY     | THIS YEAR | LAST YEAR   | 1948-I |
| Walla Walla River, No. Fk. Walla Walla River, So. Fk. Walla Walla River, Main Walla Walla River, Little Couse Creek Dry Creek Pine Creek Umatilla River, Main Wildhorse Creek Umatilla R. (Cold Springs Reservoir) Umatilla R. (McKay Res.) McKay Creek Birch Creek Butter Creek Willow Creek Rhea Creek Rock Creek (John Day tributary) | Spring peak flows are past. | Poor Poor Poor Poor Poor Poor Poor Poor | Cold Springs McKay | 50.0<br>73.8 | 32.8      | 50.0        | 48.67. |

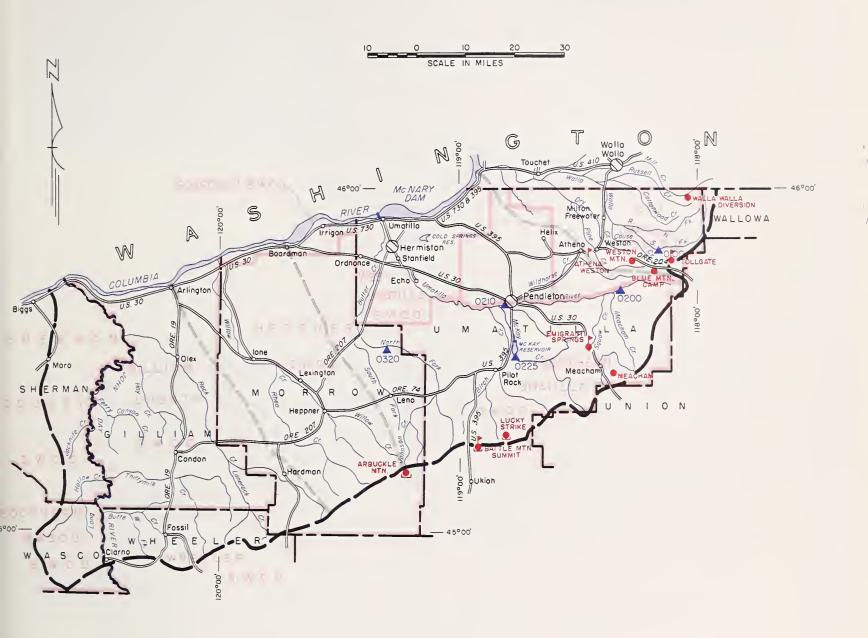
STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

|      | FORECAST POINT                    | FORECAST<br>THIS YEAR | FORECAST PERIOD | 1948-62<br>AVERAGE | THIS YEAR<br>AS PERCENT. |
|------|-----------------------------------|-----------------------|-----------------|--------------------|--------------------------|
| NO.  | NAME                              |                       | L.,             |                    | OF AVERAGE 1             |
|      |                                   |                       |                 |                    |                          |
| 0320 | Butter Creek near Pine City       | 0.8                   | May-July        | 4.7                | 17                       |
| 0225 | McKay near Pilot Rock             | 2.0                   | May-Sept.       | 14.1               | 14                       |
| 0200 | Umatilla River near Gibbon        | 12.8                  | May-July        | 52                 | 25                       |
|      |                                   | 18.6                  | May-Sept.       | 58                 | 32                       |
| 0210 | Umatilla River at Pendleton       | 25                    | May-July        | 92                 | 27                       |
|      |                                   | 29                    | May-Sept.       | 97                 | 30                       |
| 0110 | Walla Walla, No. Fork near Milton | 2.7                   | May-July        | 11.1               | 24                       |
|      | ·                                 | 3.0                   | May-Sept.       | 11.7               | 26                       |
| 0100 | Walla Walla, So. Fork near Milton | 26                    | May-July        | 44                 | 59                       |
|      | ,                                 | 36                    | May-Sept.       | 58                 | 62                       |
|      |                                   |                       | and a special   |                    | 0.2                      |
|      |                                   |                       |                 |                    |                          |
|      |                                   |                       |                 |                    |                          |
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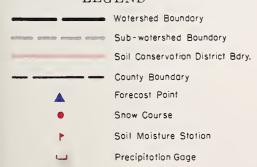
| IL MOISTURE        |           | PROFILE | (Inches)  | Y       | SOIL MOISTUR | RE (Inches) |         |
|--------------------|-----------|---------|-----------|---------|--------------|-------------|---------|
| STATION            |           | DEPTH   | CAPACITY  | DATE    | THIS         | LAST        | 2 YEARS |
| NAME               | ELEVATION | JE! !!! | OA! AO!!! |         | YEAR         | YEAR        | AGO     |
| Athena-Weston      | 1700      | 48      | 18.7      | 5/29/68 | 10.7         | 11.5        | 12.4    |
| Battle Mtn. Summit | 4340      | 48      | 13.8      | 4/29/68 | 12.4 f       |             | 10.3    |
| Emigrant Springs   | 3925      | 48      | 22.3      | 4/30/68 | 20.6 f       |             | 18.0    |
| Collgate           | 5070      | 48      | 23.6      | 5/29/68 | 18.4         | 19.4        | 18.5    |
|                    |           |         |           | , ==,   |              | 10.1        | 10.0    |
|                    |           |         |           |         |              |             |         |
|                    |           |         |           |         |              |             |         |
|                    |           |         |           |         |              |             |         |
|                    |           |         |           |         |              |             |         |
|                    |           |         | 1         |         |              |             |         |
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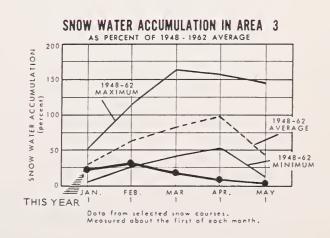
<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS



#### LEGEND





# Umatilla, Walla Walla, Willow, Rock, Lower John Day Watersheds

| SNOW  |                      | CURI              | RENT INFORMA        | TION                         | PAST R            | ECORD                             |
|---|----------------------|-------------------|---------------------|------------------------------|-------------------|-----------------------------------|
| SNOW COURSE                                 | ELEVATION            | DATE OF<br>SURVEY | SNOW DEPTH (Inches) | WATER<br>CONTENT<br>(Inches) | WATER CONT        | ENT (Inches<br>1948-62<br>ÄVERAGE |
| Blue Mountain Camp Tollgate Weston Mountain | 4300<br>5070<br>2700 | 6/1<br>6/1<br>6/1 | 0 0 0               | 0.0<br>0.0<br>0.0            | 0.0<br>0.0<br>0.0 | AVERAGE                           |
|   |                      |                   |                     |                              |                   |                                   |



# WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS OREGON

as of

JUNE 1, 1968

# U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for water users in the John Day Basin this summer. Most streams in this area have already dropped to record-low levels experienced in the early "thirties." Extreme water shortages appear to be unavoidable unless generous rainfall at frequent intervals is experienced.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in the John Day Basin was about two-thirds of the average. May brought only half (49 per cent) of the average precipitation according to the U.S. Weather Bureau.

Snowpacks vanished weeks ago and soil moisture has been reduced significantly by drying winds.

#### STREAMFLOW

Flow of the John Day River at Service Creek was reported at 88,900 acre feet or only 24 percent of the average for May, according to the U.S. Geological Survey.

Expected streamflow for the remainder of the season is forecast as follows:

| Stream Station         | Period   | Acre Feet | Percent Average (1948-62) |
|------------------------|----------|-----------|---------------------------|
| John Day River at      |          |           |                           |
| Prairie City           | AprJuly  | 16,000    | 3 5                       |
| Strawberry Creek       | Apr July | 4,300     | 53                        |
| John Day River, Middle |          |           |                           |
| Fork at Ritter         | AprJuly  | 41,000    | 3 2                       |

# WATER SUPPLY OUTLOOK expressed as "Paor", "Fair" "Average" ar "Excellent"

| STREAM or AREA   | FLOW                        | FLOW PERIOD                             | RESERVOIR | USABLE   | MEASURED (First of Month) |           |                |  |
|--|-----------------------------|---|-----------|----------|---------------------------|-----------|----------------|--|
| STREAM OF AREA   | SPRING SEASON               | LATE SEASON                             | RESERVOIR | CAPACITY | THIS YEAR                 | LAST YEAR | 1948-<br>AVERA |  |
| Beech Creek Beech Creek-Fox-Long Cr. Bridge-Mountain Creeks Camas Creek Cherry Creek Indian-Pine Creeks John Day River, Main Fork John Day River, Mid. Fork John Day River, N. Fork John Day River, S. Fork Monument-Kimberly Strawberry Creek | Spring peak flows are past. | Poor Poor Poor Poor Poor Poor Poor Poor |           |          |                           |           |                |  |

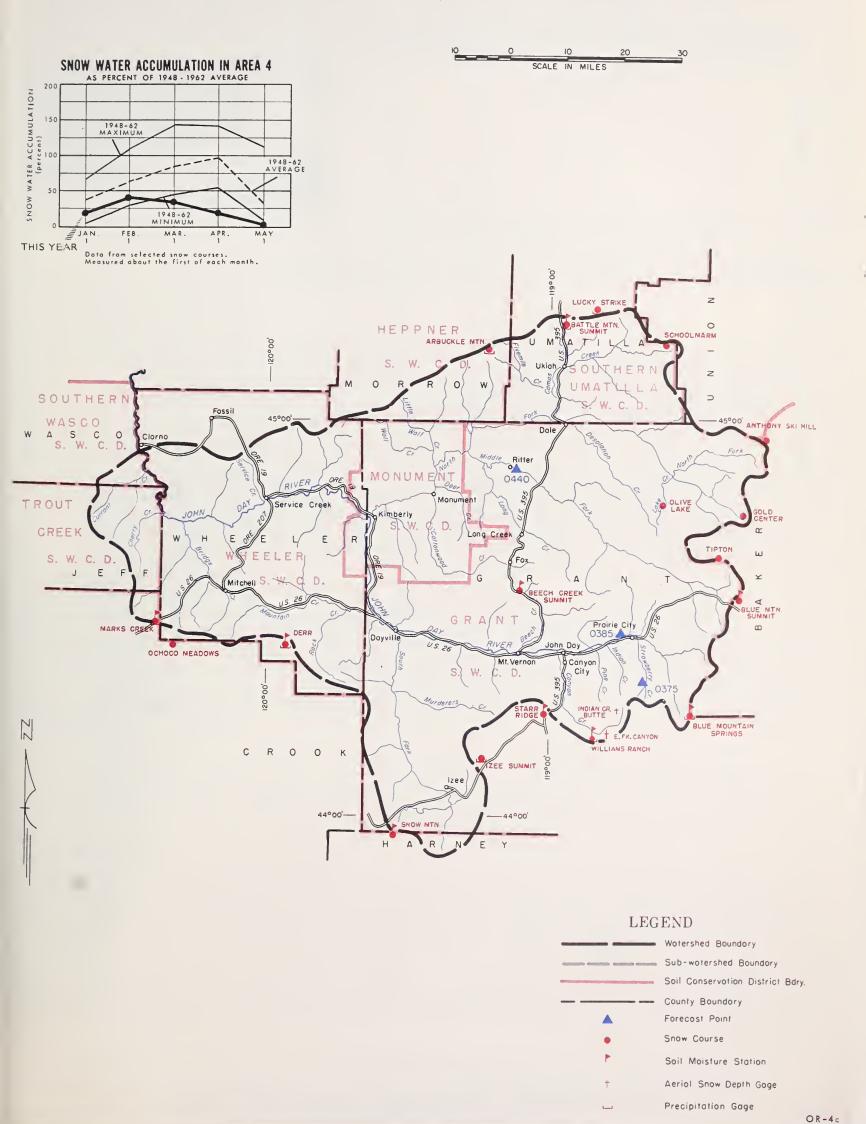
### STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.                  | FORECAST POINT  | FORECAST<br>THIS YEAR              | FORECAST PERIOD  | 1948-62<br>AVERAGE                   | THIS YEAR AS PERCENT OF AVERAGE  |
|----------------------|---|------------------------------------|--|--------------------------------------|----------------------------------|
| 0385<br>0440<br>0375 | John Day at Prairie City John Day, Middle Fork at Ritter Strawberry near Prairie City | 16<br>20<br>41<br>45<br>4.3<br>5.0 | April-July April-Sept. April-July April-Sept. April-July April-Sept. | 46<br>51<br>127<br>131<br>8.1<br>8.8 | 35<br>39<br>32<br>34<br>53<br>57 |

| SOIL MOISTURE   | PROFILE  | (Inches)                                     |   | SOIL MOISTU  | RE (Inches)   |   |   |
|---|--|--|---|--|---|---|---|
| STATION   |  | DEPTH  | CAPACITY  | DATE   | THIS  | LAST  | 2 YEARS   |
| NAME  | ELEVATION  | 52. 111                                      | ON NOTT   | 0,110  | YEAR  | YEAR  | AGO   |
| Battle Mtn. Summit Beech Creek Blue Mountain Springs Blue Mountain Summit Derr Marks Creek Snow Mountain Starr Ridge Williams Ranch | 4340<br>4800<br>5900<br>5100<br>5670<br>4540<br>6300<br>5150<br>4500 | 48<br>42<br>36<br>24<br>36<br>48<br>36<br>42 | 13.8<br>21.3<br>16.9<br>16.8<br>9.0<br>14.1<br>16.7<br>10.6<br>17.9 | 4/29/68<br>5/29/68<br>5/31/68<br>5/31/68<br>5/28/68<br>5/28/68<br>6/4/68<br>5/31/68<br>5/31/68 | 12.4<br>15.0<br>12.2<br>13.2<br>8.9<br>11.7<br>12.4<br>10.4<br>15.6 | 15.9<br>13.1<br>16.0<br>9.0<br>13.4<br>16.7<br>10.4<br>15.7 | 10.3<br>14.2<br>11.4<br>12.3<br><br>12.9<br>16.4<br>9.0<br>14.5 |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# UPPER JOHN DAY WATERSHEDS



## Upper John Day Watersheds

| OW          |           | CUR     | RENT INFORMA | TION             | PAST RECORD       |                    |  |
|-------------|-----------|---------|--------------|------------------|-------------------|--------------------|--|
| SNOW COURSE |           | DATE OF | SNOW DEPTH   | WATER<br>CONTENT | WATER CONTENT (In |                    |  |
| NAME        | ELEVATION | SURVEY  | (Inches)     | (Inches)         | LAST YEAR         | 1948-62<br>AVERAGE |  |
| Olive Lake  | 6000      | 5/29    | 0            | 0.0              |                   |                    |  |
|             |           |         |              |                  |                   |                    |  |
|             |           |         |              |                  |                   |                    |  |



# WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of
JUNE 1, 1968

# U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about twenty-five years are expected for water users of Deschutes, Jefferson and Crook Counties this summer. Most streams in this area are already at low levels of flow but can be expected to drop further to the record-low levels experienced in 1941 and 1931. Reservoired water is insufficient to furnish a full supply except in Prineville Reservoir.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in this area was about half of the average. May brought near average amounts according to the U.S. Weather Bureau. Scattered snow is present only in the high Cascades and will provide only negligible additions of runoff. Soils have already been dried considerably by cool winds.

#### RESERVOIR STORAGE

Total stored water supplies are generally one-third less than a year ago at this date. Wickiup held about 138,000 acre feet on June first, compared with 144,900 a.f. last year. Crane Prairie held 27,800 a.f. compared with 34,400 a.f. and Crescent Lake contained 46,800 a.f. compared with 59,800 the previous year. Lands served from these reservoirs are also dependent upon natural flow of the Deschutes River which will be less than half of its usual flow this season.

Ochoco Reservoir held only 13,000 acre feet on June first compared with 38,400 a.f. a year ago. This is insufficient water for the summer season. However, some water from Prineville will be available for some of these Ochoco lands. Prineville Reservoir holds 109,600 acre feet compared with 152,200 a.f. a year ago and is sufficient for lands it will serve this year.

#### STREAMFLOW

Flow of the Deschutes River at Benham Falls, May through September, is forecast at 260,000 acre feet or 48 percent of the average. Swalley Canal and Central Oregon Irrigation District have first rights to this water and these rights will be satisfied. Later rights for Lone Pine, Arnold, North Unit and secondary rights for C.O.I. will have only a limited supply.

Squaw and Tumalo Creeks are forecast to produce 36,000 and 38,000 acre feet, respectively, in the April through September period. These flows are only slightly higher than the low flows experienced in 1941.

# WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

| 1968 |
|------|
|      |

|  |                             |  |   | MEACURED (First of Man)                |   |  |          |
|--|-----------------------------|--|---|--|---|--|----------|
| STREAM or AREA   | FLOW                        | PERIOD   | RESERVOIR   | USABLE                                 | MEASUR  | ED (First o                            | _        |
| STREAM OF AREA   | SPRING SEASON LATE SEASON   |  |   | CAPACITY                               | MEASURED (F<br>Y THIS YEAR LAST<br>27.8 34<br>46.8 59<br>13.0 38<br>109.6 152 | LAST YEAR                              | 19<br>AV |
| Arnold Irrigation District Bear Creek Beaver Creek Camp Creek Central Ore. Irrig. Dist. Crooked River Deschutes River Hay-Trout Creeks Lone Pine Irrig. Dist. Mill Creek North Unit Irrig. Dist. Ochoco Creek Sisters Irrigation Dist. Snow Creek Irrig. Dist. Squaw Creek Irrig. Dist. Swalley Ditch Tumalo Project Walker Basin Irrig. Dist. | Spring peak flows are past. | Fair Poor Poor Poor Fair Poor Poor Fair Poor Poor Poor Poor Poor Fair Fair Average Fair Poor | Crane Prairie Crescent Lake Ochoco Prineville Wickiup | 55.3<br>86.9<br>47.5<br>153.0<br>200.0 | 46.8<br>13.0<br>109.6   | 34.4<br>59.8<br>38.4<br>152.2<br>144.9 | 4 4 3 16 |

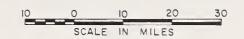
# STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.  | THIS YEAR                                  |           | FORECAST PERIOD       | 1948-62<br>AVERAGE | THIS YEAR<br>AS PERCENT<br>OF AVERAGE |
|------|--|-----------|-----------------------|--------------------|---------------------------------------|
| 0505 | C D L L D D D D D D D D D D D D D D D D    | 46        | Moss Tarles           | 70                 | F0                                    |
| 0535 | Crane Prairie Reservoir total Inflow       | 46        | May-July              | 79                 | 58                                    |
| 0000 | Crescent at Crescent Lake d                | 74<br>5.6 | May-Sept.             | 127                | 58                                    |
| 0600 | Crescent at Crescent Lake                  | 7.1       | May-July<br>May-Sept. | 22<br>29           | 25<br>24                              |
| 0705 | Crooked near Post                          | 4.7       | May-July              | 46                 | 10                                    |
| 0795 | Crooked hear Post                          | 5.0       | May-Sept.             | 48                 | 10                                    |
| 0645 | Deschutes at Benham Falls d                | 149       | May-July              | 328                | 45                                    |
| 0043 | Descriptes at Dennam rails                 | 260       | May-Sept.             | 541                | 48                                    |
| 0500 | Deschutes below Snow Creek                 | 28        | May-Sept.             | 68                 | 41                                    |
| 0630 | Deschutes, Little near Lapine <sup>d</sup> | 28        | April-July            | 99                 | 28                                    |
| 0000 | Deschates, Hitte hear Hapine               | 31        | April-Sept.           | 113                | 27                                    |
| 0848 | Ochoco Reservoir net Inflow                | 0.5       | May-Sept.             | 16.5               | 3                                     |
| 0555 | Odell near Crescent                        | 19        | April-Sept.           | 34                 | 56                                    |
| 0750 | Squaw near Sisters                         | 36        | April-Sept.           | 56                 | 64                                    |
| 0730 | Tumalo near Bend d                         | 38        | April-Sept.           | 54                 | 70                                    |
| 0,00 | 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3    |           |                       | 5.                 |                                       |
|      |  |           |                       |                    |                                       |
|      |  |           |                       |                    |                                       |

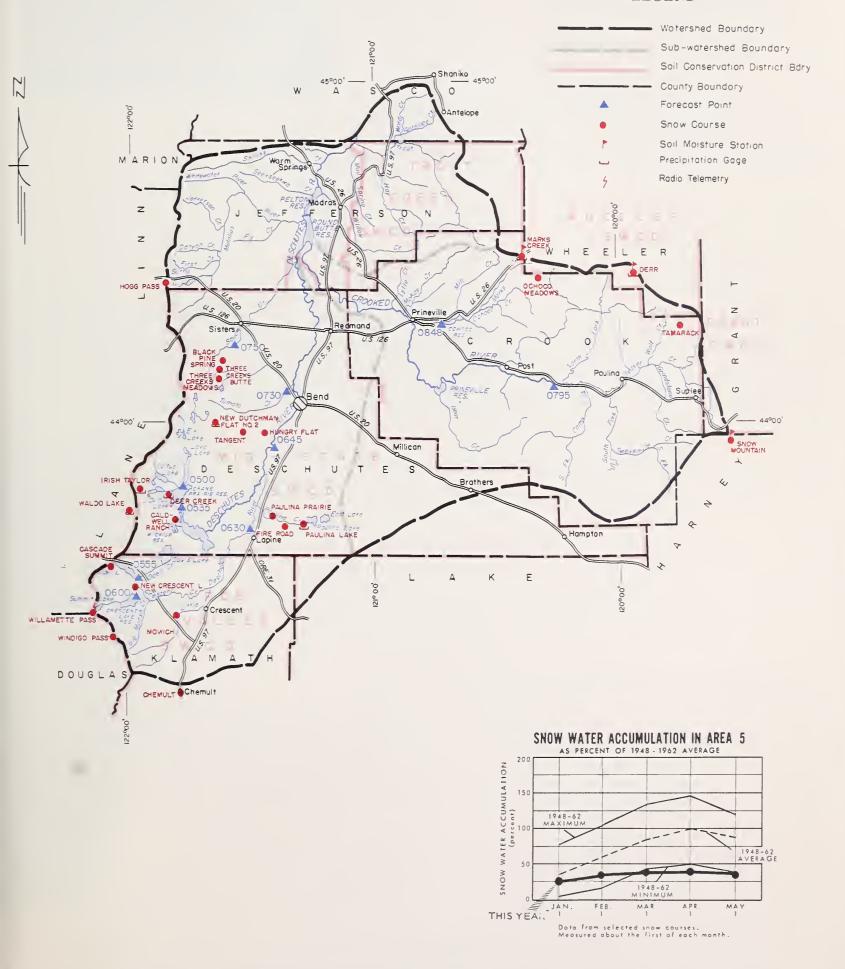
| DIL MOISTURE  |           | PROFILE (Inches) SOIL MOISTURE (Inches) |          |         |      |      |         |
|---------------|-----------|---|----------|---------|------|------|---------|
| STATION       |           | DEPTH                                   | CAPACITY | DATE    | THIS | LAST | 2 YEARS |
| NAME          | ELEVATION | DEFTIN                                  | CATACITI | DATE    | YEAR | YEAR | AGO     |
| Derr          | 5670      | 24                                      | 9.0      | 5/28/68 | 8.9  | 9.0  |         |
| Marks Creek   | 4540      | 36                                      | 14.1     | 5/28/68 | 11.7 | 13.4 | 12.9    |
| Snow Mountain | 6300      | 48                                      | 16.7     | 6/4/68  | 12.4 | 16.7 | 16.4    |
|               |           |   |          |         |      |      |         |
|               |           |   |          |         |      |      |         |
|               |           |   |          |         |      |      | 1       |
|               |           |   |          |         |      |      |         |
|               |           |   |          |         |      |      |         |
|               |           |   |          |         |      |      |         |
|               |           |   |          |         |      |      |         |
|               |           |   |          |         |      |      |         |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# UPPER DESCHUTES, CROOKED WATERSHEDS



#### LEGEND



# Upper Deschutes, Crooked Watersheds

| NOW   |  | CURRENT INFORMATION PAST RECOI              |                             |   |                                       | ECORD                            |
|---|--|---|-----------------------------|---|---------------------------------------|----------------------------------|
| SNOW COURSE   | ELEVATION                                    | DATE OF<br>SURVEY                           | SNOW DEPTH<br>(Inches)      | WATER<br>CONTENT<br>(Inches)            | WATER CONT                            | ENT (Inche<br>1948-62<br>AVERAGE |
| Cascade Summit (Alternate) Hogg Pass Hungry Flat New Dutchman Flat #2 Tangent | 4880<br>4880<br>4755<br>4400<br>6400<br>5400 | 5/29<br>5/29<br>6/3<br>5/27<br>5/27<br>5/27 | 0<br>0<br>0<br>0<br>30<br>0 | 0.0<br>0.0<br>0.0<br>0.0<br>16.2<br>0.0 | 0.0<br><br>17.2<br>0.0<br>27.2<br>0.0 | 7.8<br><br>                      |
|   |  |   |                             |   |                                       |                                  |
|   |  |   |                             |   |                                       |                                  |
|   |  |   |                             |   |                                       |                                  |



# WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS OREGON

*as of*JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about twenty-five years are expected for water users of Hood River and Wasco Counties this summer. Most streams in this area are already at very low levels of flow but can be expected to drop further to extreme low levels recorded in the early 1940s. The water supply situation remains critical.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in this area was about two-thirds of the average. May brought near average (93 percent) amounts according to the U.S. Weather Bureau.

Mountain snowpacks vanished weeks ago except for highest elevations where snow melt will affect only those tributaries heading high on the mountains.

#### STREAMFLOW

Flow of major streams in this area is expected to be half of the 15-year average or even less. Forecasts are as follows:

| Stream Station             | Period    | Acre Feet | Percent Average (1948-62) |
|----------------------------|-----------|-----------|---------------------------|
| White R. below Tygh Valley | , ,       | 30,000    | 2 4                       |
| West Fork Hood River       | May-Sept. | 65,000    | 5 2                       |
| Hood R. near Hood River    | May-Sept. | 140,000   | 50                        |

Flows of Mill Creek, the Mile Creeks and other small streams will be extremely negligible this summer.

### WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

#### RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

| STREAM or AREA  | FLOW PERIOD                 |   | FLOW PERIOD RESERVOIR USABLE MEASU |          | MEASUR    | ED (First o | f Month         |
|---|-----------------------------|---|------------------------------------|----------|-----------|-------------|-----------------|
| STREAM OF AREA  | SPRING SEASON               | LATE SEASON                             | RESERVOIR                          | CAPACITY | THIS YEAR | LAST YEAR   | 1948-6<br>AVERA |
| Aldridge Ditch (Tony Creek) Badger Creek Dee Irrigation District East Fork Irrig. Dist. Farmers Irrigation Dist. Hood River Irrig. Dist. Juniper Flat Middle Fork Irrig. Dist. Mile Creeks Mill Creek Mount Hood Irrig. Dist. Rock-Gate-Threemile Crs. Tygh Creek White River | Spring peak flows are past. | Poor Poor Poor Poor Poor Poor Poor Poor | Clear Lake                         | 11.9     | 3.6       | 3.4         |                 |

# STREAMFLOW FORECASTS a(1,000 Ac. Ft.) as of June 1, 1968

| NO.  | FORECAST POINT NAME                                 | FORECAST<br>THIS YEAR | FORECAST PERIOD                   | 1948-62<br>AVERAGE | THIS YEAR<br>AS PERCENT<br>OF AVERAGE |
|------|---|-----------------------|-----------------------------------|--------------------|---------------------------------------|
| 1210 | Hood near Hood River d                              | 100<br>140            | May-July<br>May-Sept.             | 218<br>278         | 46<br>50                              |
| 1185 | Hood, West Fork near Dee<br>White below Tygh Valley | 50<br>65<br>26        | May-July<br>May-Sept.<br>May-July | 101<br>125<br>108  | 50<br>52<br>24                        |
|      |   | 30                    | May-Sept.                         | 126                | 24                                    |
|      |   |                       |                                   |                    |                                       |
|      |   |                       |                                   |                    |                                       |
|      |   |                       |                                   |                    |                                       |

| SNOW   |                                      | CUR                                 | RENT INFORMA            | TION                              | PAST RECORD                   |                     |  |
|--|--------------------------------------|-------------------------------------|-------------------------|-----------------------------------|-------------------------------|---------------------|--|
| SNOW COURSE  |                                      | DATE OF<br>SURVEY                   | SNOW DEPTH              | WATER<br>CONTENT                  | WATER CONTENT (Inches         |                     |  |
| NAME   | ELEVATION                            |                                     | (Inches)                | (Inches)                          | LAST YEAR                     | 1948-62<br>AVERAGE  |  |
| Clear Lake Clear Lake (Experimental Phlox Point Still Creek Umbrella Falls | 3500<br>3500<br>5400<br>3670<br>5400 | 5/29<br>5/29<br>5/20<br>5/29<br>6/1 | 0<br>0<br>30<br>0<br>29 | 0.0<br>0.0<br>14.5<br>0.0<br>15.2 | 0.0<br>0.0<br>36.2<br>2.5<br> | <br>45.3<br>0.9<br> |  |

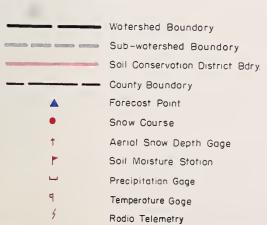
<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

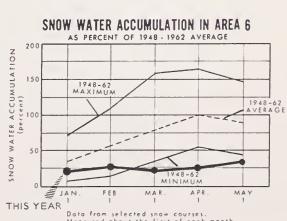
# HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS















# WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

as of JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

May was a month of mixed weather in the Columbia Basin. Precipitation was generally below average except for near average to above average conditions in the Upper Columbia portion in British Columbia, the Upper Flathead Basin in Montana and on the Snake River above American Falls, Idaho. Generally, streamflow to date has been below normal reflecting the poor snowpack in most of the basins and delayed snowmelt at the higher elevations. Streamflow outlook in Oregon and southern tributaries to the Snake in Idaho continues to be extremely poor. Extensive use will be made of reservoired water in the basin. The U.S. Weather Bureau, River Forecast Center is forecasting probable stages of 14 to 17 feet on the Columbia at Vancouver, Washington with such regulation as is available.

#### SNOW COVER

In general, snowmelt at the higher elevations was slower than usual and to some extent this has delayed the streamflow yet to come. However, most median and all low elevation snow has melted. In British Columbia, Montana, northern Washington and eastern and southeastern Idaho, June 1 snow surveys at the higher key snow courses indicate a near normal to above normal snowpack. Elsewhere in the basin, particularly in Oregon and southwestern Idaho, the remaining snow at the higher elevations is much below average.

#### STREAMFLOW

Flow of the Columbia River at The Dalles, Oregon, as reported by the U. S. Geological Survey, was slightly below average during the fall. In February and March the flfow was moderately above average, reflecting unseasonable mid-winter snowmelt and rain. April and May were well below normal. The record by months for the 1968 water year to date was as follows:

| Month    | Percent o | f Average | Disc | charge (1948 | - |
|----------|-----------|-----------|------|--------------|---|
| October  | 96        | (Adjusted | for  | Storage)     |   |
| November | 99        | "         | 11   | 11           |   |
| December | 88        | "         | 00   | 11           |   |
| January  | 96        | 16        | 41   | "            |   |
| February | 129       | ##        | #1   | 11           |   |
| March    | 118       | 88        | 11   | **           |   |
| April    | 58        | 88        | 88   | 11           |   |
| May      | 6.5       | 66        | 11   | 20           |   |

The May-September forecast of the Columbia River at The Dalles is 80,600,000 acre-feet or 85 percent of average.

#### STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.  | FORECAST POINT NAME    |        | FORECAST PERIOD | 1948-62<br>AVERAGE | THIS YEAR<br>AS PERCENT.<br>OF AVERAGE <sup>1</sup> |
|------|------------------------|--------|-----------------|--------------------|---|
| 1057 | Columbia at The Dalles | 80,600 | May-Sept.       | 94,841             | 85  |

## HISTORICAL DATA (Columbia River at The Dalles)

|              | STRI            |          | )          | PEAK           | 2475    |
|--------------|-----------------|----------|------------|----------------|---------|
| YEAR         | APR SEPT.       | APR JUNE | MAY - JUNE | (1,000 c.f.s ) | DATE    |
| 1943         | 115,000         | 75,300   | 52,400     | 541            | June 21 |
| 1944         | 61,900          | 39,200   | 32,100     | 326            | June 19 |
| 1945`        | 81,600          | 54,600   | 47,300     | 505            | June 8  |
| 1946         | 108,100         | 75,400   | 59,600     | 581            | May 30  |
| 1947         | 100,300         | 70,000   | 56,800     | 536            | May 11  |
| 1948         | 130,500         | 94,600   | 81,900     | 999            | May 31  |
| 1949         | 95,700          | 71,400   | 56,000     | 622            | May 18  |
| 1950         | 120,400         | 74,700   | 61,200     | 744            | June 25 |
| 1951         | 113,000         | 75,600   | 59,100     | 597            | May 26  |
| 1952         | 107,700         | 77,500   | 57,300     | 557            | May 28  |
| 1953         | 100,600         | 64,900   | 55,800     | 609            | June 17 |
| 1954         | 119,500         | 70,500   | 59,300     | 561            | May 23  |
| 1955         | 99,500          | 58,300   | 50,300     | 545            | June 26 |
| 1956         | 131,400         | 96,900   | 75,800     | 815            | June 3  |
| 1957         | 105,700         | 80,500   | 67,200     | 700            | May 22  |
| 1958         | 97,700          | 72,000   | 58,600     | 593            | May 31  |
| 1959         | 112,500         | 71,900   | 58,900     | 555            | June 23 |
| 1960         | 97,000          | 64,000   | 48,000     | 442            | June 6  |
| 1961         | 101,400         | 74,400   | 64,000     | 699            | June 8  |
| 1962         | 94,600          | 64,100   | 49,200     | 460            | June 5  |
| 1948-62 Avg. | 108,500         | 74,100   | 60,200     | 633            |         |
| 1963         | 87 <b>,</b> 000 | 56,300   | 46,200     | 437            | June 18 |
| 1964         | 109,020         | 70,739   | 61,313     | 662            | June 18 |

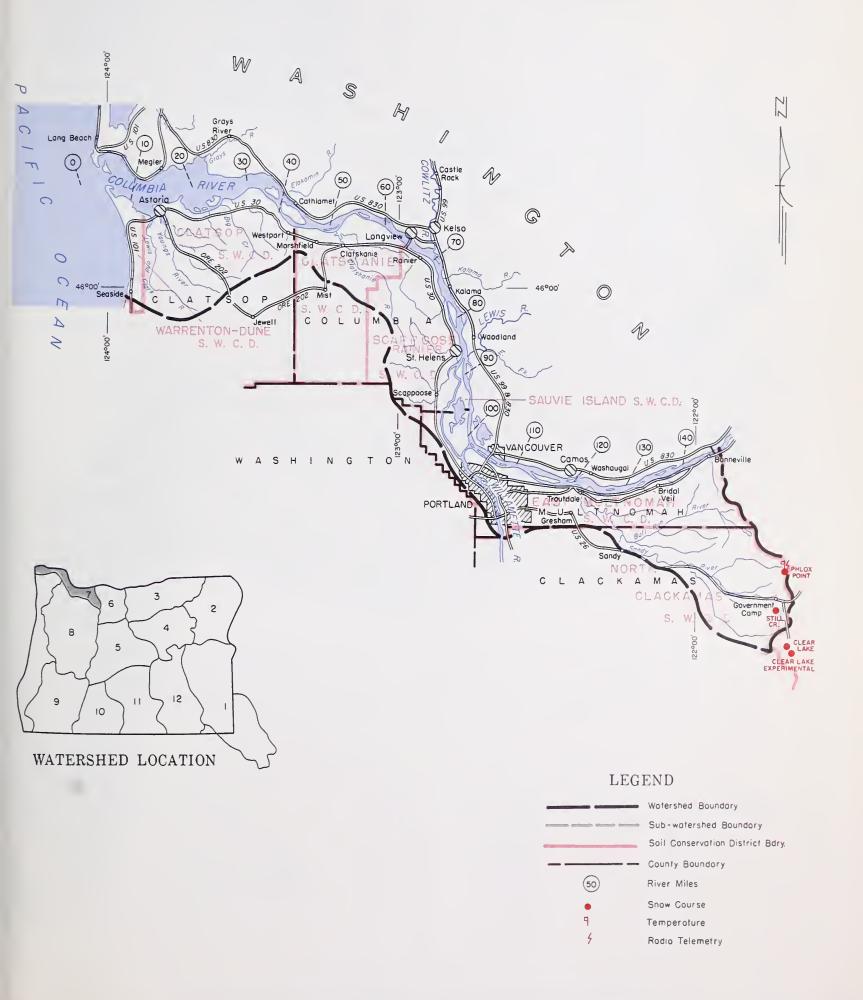
#### LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

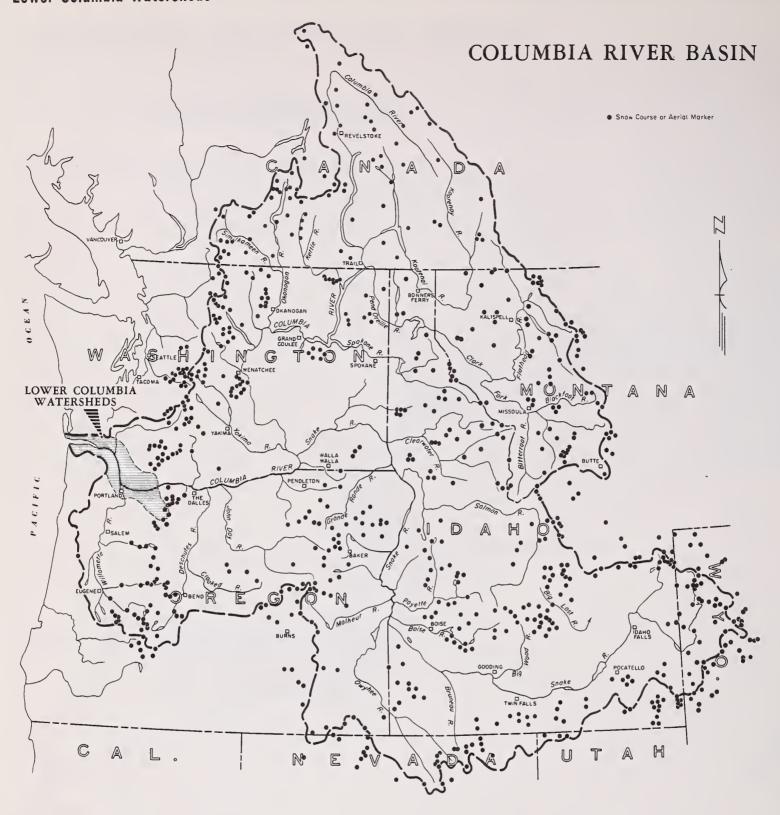
|               |                |       |             | DRAINA    | GE DISTRICT PUM | PHOUSE  |        |         |
|---------------|----------------|-------|-------------|-----------|-----------------|---------|--------|---------|
| VANCOUVER     | FLOW AT        | SANDY | SAUVIE ISL. | SCAPPOOSE | DEER ISL.       | RAINIER | BEAVER | WOODSON |
| GAGE          | THE DALLES     |       |             |           | RIVER MILES     |         |        |         |
| (Weather Bu.) | (1,000 c.f.s ) | 118.9 | 96.0        | 91.0      | 77. 0           | 62.0    | 52.0   | 47. 0   |
| 35 (1894)     | 1210           | 41.2  | 34.2        | 33.3      | 28.5            | 21.9    | 17.5   | 15.5    |
| 34            | 1160           | 40.5  | 33.5        | 32.5      | 27.7            | 21.2    | 17.0   | 15.0    |
| 33            | 1100           | 39.6  | 32.4        | 31.4      | 26.7            | 20.2    | 16.1   | 14.3    |
| 32            | 1050           | 38.9  | 31.5        | 30.5      | 25.7            | 19.5    | 15.4   | 13.7    |
| 31 (1948)     | 1000           | 38.0  | 30.7        | 29.5      | 25.1            | 18.8    | 14.7   | 13.0    |
|               |                |       |             |           |                 |         |        |         |
| 30            | 943            | 36.6  | 29.5        | 28.5      | 24.3            | 18.1    | 14.0   | 12.4    |
| 29            | 897            | 35.5  | 28.5        | 27.7      | 23.7            | 17.5    | 13.4   | 11.8    |
| 28            | 853            | 34.3  | 27.5        | 26.7      | 22.8            | 17.0    | 13.0   | 11.4    |
| 27 (1956)     | 811            | 33.0  | 26.5        | 25.6      | 21.8            | 16.2    | 12.5   | 11.0    |
| 26 (1950)     | 771            | 32.1  | 25.5        | 24.6      | 20.9            | 15.5    | 12.2   | 10.7    |
| 25            | 733            | 30.7  | 24.2        | 23.2      | 19.7            | 14.6    | 11.7   | 10.3    |
| 24            | 697            | 29.7  | 23.0        | 22.2      | 19.0            | 14.1    | 11.4   | 10.2    |
| 23            | 662            | 29.0  | 22.3        | 21.4      | 18.4            | 13.6    | 11.2   | 10.0    |
| 22            | 628            | 28.1  | 21.4        | 20.3      | 17.2            | 13.0    | 10.9   | 9.7     |
| 21            | 595            | 27.2  | 20.7        | 19.5      | 16.4            | 12.6    | 10.6   | 9.6     |
| 20 (1954)     | 564            | 26.2  | 19.8        | 18.6      | 15.5            | 12.1    | 10.2   | 9.4     |
| 19            | 534            | 25.5  | 19.2        | 18.0      | 15.0            | 11.8    | 10.0   | 9.3     |
| 18            | 501            | 24.4  | 18.3        | 17.2      | 14.3            | 11.4    | 9.8    | 9.1     |
| 17            | 479            | 23.4  | 17.4        | 16.4      | 13.7            | 11.0    | 9.6    | 8.9     |
| 16            | 452            | 22.4  | 16.5        | 15.5      | 13.0            | 10.5    | 9.3    | 8.7     |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

# LOWER COLUMBIA WATERSHEDS









# WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of
JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

Streamflow in Willamette Valley for the summer of 1968 is forecast to be about half the usual volume and water supplies will be seriously short except where stored or ground water supplies are available. Stream levels will be highly similar to those measured in 1940 and 1941.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 in this region has been about 90 percent of the average. May brought rainfall totaling slightly above average (106 percent) according to the U.S. Weather Bureau.

Snowpacks vanished several weeks ago and only patches remain at high elevations on peaks and ridges. Although soil moisture improved greatly in the past two weeks it is still short of the amount present one year ago.

#### RESERVOIR STORAGE

Water stored in multiple-purpose reservoirs of Willamette Basin is close to peak amounts, having gained a real "boost" from the storms over the Memorial Day weekend. Many of these reservoirs contain "blocks" of stored water which can be made available for irrigation purposes.

#### STREAMFLOW

Most Oregon streams have never really "recovered" from last year's hot, dry summer and Willamette streams are no exception. For instance, the flow of the Middle Fork of the Willamette below the North Fork during May was reported by the U. S. Geological Survey to be 109,900 acre feet or only 41 percent (less than half) of the average. Precipitation was slightly above normal in this same period.

Expected flows of some typical Willamette streams are forecast as follows:

| Stream Station  | Period    | Acre Feet | Percent Average (1948-62) |
|---|-----------|-----------|---------------------------|
| Clackamas at Estacada                                   | AprSept.  | 500,000   | 56                        |
| North Santiam at Mehama                                 | AprSept.  | 555,000   | 56                        |
| McKenzie at McK. Bridge                                 | AprSept.  | 390,000   | 5 9                       |
| South Santiam at Waterloo<br>Willamette, Mid. Fk. below | AprSept.  | 330,000   | 49                        |
| North Fork  | Apr Sept. | 430,000   | 4 4                       |
| Willamette at Salem                                     | Apr Sept. | 2,950,000 | 53                        |

W.T. FROST AND TOM GEORGE

# WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

| (1,000 A | c. Ft.)   | June            | 1,                   | 1968                    |
|----------|-----------|-----------------|----------------------|-------------------------|
|          | (1,000 A) | (1,000 Ac. Ft.) | (1,000 Ac. Ft.) June | (1,000 Ac. Ft.) June 1, |

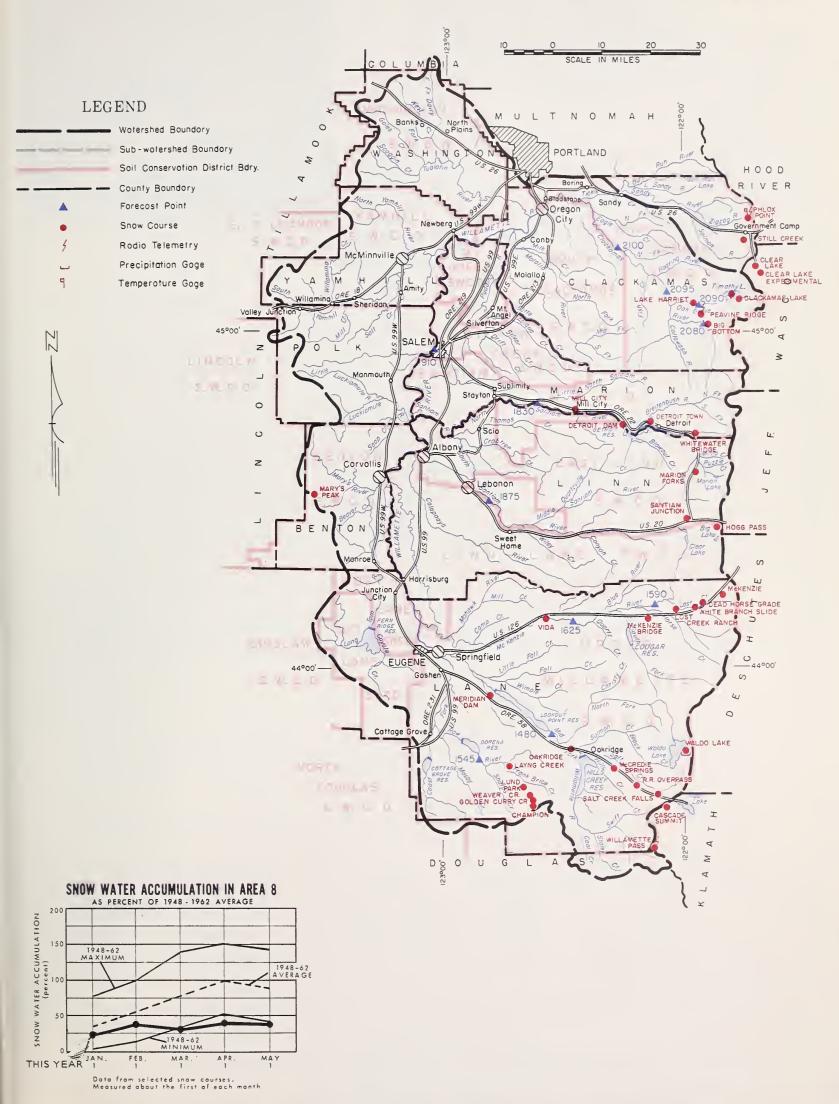
| STREAM or AREA FLOW PERIOD RESE |   | RESERVOIR  | USABLE   | MEASUR                                  | ED (First o   | f Mo                |
|---------------------------------|---|--|--|---|---|---------------------|
|                                 | LATE SEASON                             | RESERVOIR  | CAPACITY   | THIS YEAR                               | LAST YEAR   | 1941<br>AVE         |
|                                 | Poor Poor Poor Poor Poor Poor Poor Poor | Cottage Grove Cougar Detroit Dorena Fall Creek Fern Ridge Foster Green Peter Hills Creek Lookout Point Timothy Lake  *Multiple purpose reserved primarily for flood control. | 30.0*<br>155.2*<br>299.9*<br>70.5*<br>115.0*<br>94.2*<br>30.0*<br>270.0*<br>200.0*<br>337.2*<br>61.7 | 22.0<br>132.2<br>288.2<br>66.0<br>104.1 | 29.1<br>127.1<br>262.3<br>65.6<br>107.8<br>96.3<br><br>184.0<br>270.5<br>61.1 | 288 64 - 200 290 58 |

# STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

|      | FORECAST POINT                                    | FORECAST<br>THIS YEAR | FORECAST PERIOD           | 1948-62<br>AVERAGE | THIS YEAR<br>AS PERCENT. |
|------|---|-----------------------|---------------------------|--------------------|--------------------------|
| NO.  | NAME  | THIS TEAR             |                           |                    | OF AVERAGE 1             |
| 2080 | Clackamas at Big Bottom                           | 80<br>100             | April-July<br>April-Sept. | , 150<br>184       | 53<br>54                 |
| 2100 | Clackamas at Estacada                             | 420                   | April-July                | 770                | 54                       |
| 0005 | CD - language objects There is a second           | 500<br>320            | April-Sept.<br>April-July | 890                | 56<br>55                 |
| 2095 | Clackamas above Three Lynx                        | 385                   | April-Suly April-Sept.    | 584<br>683         | 56                       |
| 1590 | McKenzie at McKenzie Bridge                       | 280                   | April-July                | 502                | 56<br>50                 |
| 1625 | McKenzie near Vida                                | 390<br>690            | April-Sept.<br>April-July | 658<br>1144        | 59<br>60                 |
|      |   | 860                   | April-Sept.               | 1392               | 62                       |
| 2090 | Oak Grove Fork above Power Intake                 | 90<br>120             | April-July<br>April-Sept. | 147<br>190         | 61<br>61                 |
| 1545 | Row near Dorena                                   | 56                    | April-July                | 108                | 52                       |
| 1000 | Santiam, North at Mehamad                         | 61                    | April-Sept.               | 112                | 54<br>52                 |
| 1830 | Santiam, North at Menama "                        | 460<br>555            | April-July<br>April-Sept. | 884<br>991         | 52<br>56                 |
| 1875 | Santiam, South at Waterloo                        | 305                   | April-July                | 637                | 48                       |
| 1480 | Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge $d$ | 330<br>340            | April-Sept.<br>April-July | 675<br>863         | 49<br>39                 |
|      |   | 430                   | April-Sept.               | 968                | 44                       |
| 1910 | Willamette at Salem <sup>d</sup>                  | 2450<br>2950          | April-July<br>April-Sept. | 5040<br>5566       | 49<br>53                 |
|      |   | 2300                  | Mprii-Sept.               | 0000               | 00                       |
|      |   |                       |                           |                    |                          |
|      |   |                       |                           |                    |                          |
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| •    | 1   |                       |                           |                    |                          |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# WILLAMETTE WATERSHEDS



#### Willamette Watersheds

| WOW                       |           | CUR     | RENT INFORMA | TION             | PAST R     | ECORD              |
|---------------------------|-----------|---------|--------------|------------------|------------|--------------------|
| SNOW COURSE               |           | DATE OF | SNOW DEPTH   | WATER<br>CONTENT | WATER CONT |                    |
| NAME                      | ELEVATION | SURVEY  | (Inches)     | (inches)         | LAST YEAR  | 1948-62<br>AVERAGE |
| ascade Summit             | 4880      | 5/29    | 0            | 0.0              | 0.0        | 7.8                |
| ascade Summit (Alternate) | 4880      | 5/29    | 0            | 0.0              |            | , •0               |
| Clear Lake                | 3500      | 5/29    | 0            | 0.0              | 0.0        |                    |
| Clear Lake (Experimental) | 3500      | 5/29    |              | 0.0              | 0.0        |                    |
| Detroit City              | 1610      | 6/3     | 0            | 0.0              | 0.0        |                    |
| Detroit Dam               | 1580      | 6/3     |              | 0.0              |            |                    |
| logg Pass                 | 4755      | 6/3     |              | 0.0              | 0.0        |                    |
| larion Forks              | 2730      | 6/3     | 0            |                  | 17.2       |                    |
|                           | 2120      | 5/29    |              | 0.0              | 0.0        |                    |
| Accredie Springs          |           |         | 1 -          | 0.0              | 0.0        |                    |
| Meridian Dam              | 750       | 5/29    | 0            | 0.0              | 0.0        |                    |
| ill City                  | 826       | 6/3     | 0            | 0.0              | 0.0        |                    |
| Dakridge                  | 1310      | 5/29    | 0            | 0.0              | 0.0        |                    |
| hlox Point                | 5400      | 5/29    | 30           | 14.5             | 36.2       | 45.3               |
| Railroad Overpass         | 2750      | 5/29    | 0            | 0.0              | 0.0        |                    |
| Salt Creek Falls          | 4000      | 5/29    | 0            | 0.0              | 0.0        |                    |
| Santiam Junction          | 3990      | 6/3     | 0            | 0.0              | 0.0        |                    |
| Still Creek               | 3670      | 5/29    | 0            | 0.0              | 2.5        | 0.9                |
| hitewater Bridge          | 2175      | 6/3     | 0            | 0.0              | 0.0        |                    |
|                           |           |         |              |                  |            |                    |
|                           |           |         |              |                  |            |                    |
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|                           |           |         |              |                  |            |                    |



# WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

as of
JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

Streamflow in the Rogue and Umpqua Basins during the summer of 1968 is forecast to beat the lowest levels since the early 1940s. Water supplies will be poor except for the Talent, Table Rock, Gold Hill and Grants Pass Irrigation Districts which will have fair supplies.

#### PRECIPITATION and SNOW COVER

Precipitation from September 1, 1967 to May 1, 1968 has been close to two-thirds of average. May precipitation was average according to the U.S. Weather Bureau. Dry soils absorbed most of the precipitation with only a slight pick up in stream levels.

Snowpacks are now gone with patches remaining only on the high peaks and ridges.

#### RESERVOIR STORAGE

The combined storage in Fish Lake and Fourmile is 8,800 acre feet. This is less than last year at this time. Emigrant Lake, Howard Prairie and Hyatt Lake are storing 76,700 acre feet compared to last year's 111,700 acre feet.

#### STREAMFLOW

The runoff during May for the Rogue at Raygold was 107,600 acre feet. This is only forty percent of average. There is little chance of significant increases in amounts of streamflow now unless frequent and generous rainfall occurs.

Expected summer flows for some streams in the Rogue and Umpqua Basins are as follows:

| Stream Station               | Period    | Acre Ft. | Percent Avg. (1948-62) |
|------------------------------|-----------|----------|------------------------|
| Applegate near Copper        | AprSept.  | 80,000   | 56                     |
| Illinois at Kerby            | Apr Sept. |          | 5 4                    |
| Rogue at Raygold             | May-Sept. |          | 51                     |
| Umpqua, North below          |           |          |                        |
| Lemolo Res. nr Toketee Falls | AprSept.  | 120,000  | 64                     |

The Grants Pass Irrigation District will probably have to go on canal alternation about July 10th.

W.T. FROST AND TOM GEORGE

U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

# WATER SUPPLY OUTLOOK expressed os "Poor", "Foir" "Average" or "Excellent"

### RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

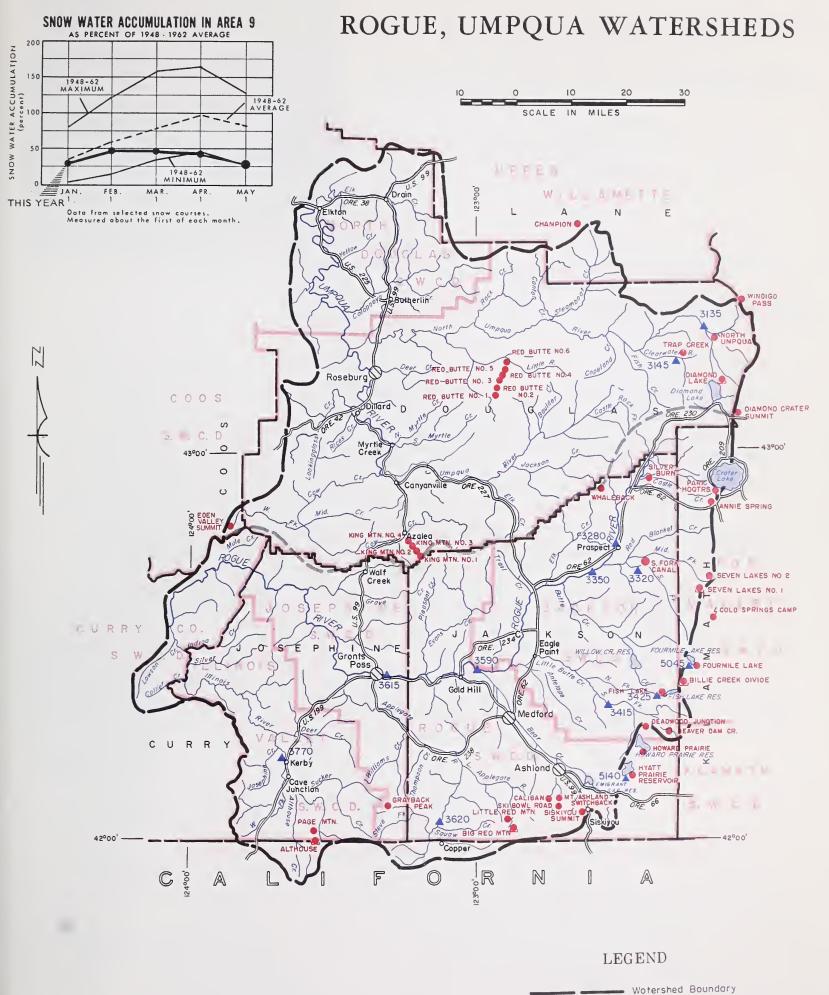
| STREAM or AREA  | FLOW                        | PERIOD   | RESERVOIR  | USABLE                              | MEASUR                             | ED (First o                     | f Month                 |
|---|-----------------------------|--|--|-------------------------------------|------------------------------------|---------------------------------|-------------------------|
| OTTENH OF AREA  | SPRING SEASON               | LATE SEASON  | RESERVOIR  | CAPACITY                            | THIS YEAR                          | LAST YEAR                       | 1948-6<br>AVERA         |
| Althouse Creek Applegate River, Big Applegate River, Little Ashland Creek Butte Creek, Big Butte Creek, Little Cow Creek Deer Creek Elk Creek Emigrant Creek (abv. Res.) Evans Creek Gold Hill Irrigation Dist. Grants Pass Irrig. Dist. Grave Creek Illinois River, East Fork Illinois River, West Fork Jump-off-Joe Creek Neil Creek Red Blanket Creek Rogue River Sucker Creek Table Rock Irrig. Dist. Thompson Creek Williams Creek | Spring peak flows are past. | Poor Fair Fair Poor Poor Poor Poor Poor Poor Fair Fair Poor Fair | Emigrant Lake Fish Lake Fourmile Lake Howard Prairie Hyatt Prairie  *Average for years of record after reconstruction. | 39.0<br>7.8<br>16.1<br>60.0<br>16.1 | 28.0<br>3.7<br>5.1<br>37.9<br>10.8 | 38.1<br>5.8<br><br>57.4<br>16.2 | 35.<br>7.<br>12.<br>14. |

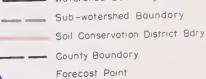
# STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.  | FORECAST POINT                                     | FORECAST<br>THIS YEAR | FORECAST PERIOD   | 1948-62<br>AVERAGE | THIS YEAR AS PERCENT. OF AVERAGE 1 |
|------|--|-----------------------|-------------------|--------------------|------------------------------------|
|      |  |                       |                   |                    | O. A. E.IIAGE                      |
| 3620 | Applegate near Copper                              | 80                    | April-Sept.       | 142                | 56                                 |
| 3145 | Clearwater above Trap Creek $^d$                   | 43                    | May-Sept.         | 62                 | 69                                 |
| 5045 | Fourmile Lake net Inflow d                         | 2.8                   | April-Sept.       | 5.4                | 52                                 |
| 5140 | Hyatt Reservoir net Inflow $d$                     | 0.8                   | May-Sept.         | 2.7                | 30                                 |
| 3771 | Illinois River near Kerby                          | 110                   | April-July        | 206                | 53                                 |
|      |  | 115                   | April-Sept.       | 212                | 54                                 |
| 3425 | Little Butte, N. Fk. at Fish Lk. nr. Lake Cr. $^d$ | 7.0                   | April-Sept.       | 16.0               | 44                                 |
| 3415 | Little Butte, So. Fk. nr. Lake Creek               | 6.0                   | April-July        | 38                 | 16                                 |
|      | Note: Minimum flow will drop to 100 c.f.s.         |                       |                   |                    |                                    |
|      | by   |                       |                   |                    |                                    |
| 3280 | Rogue above Prospect                               | 110                   | May-July          | 212                | 52                                 |
|      | ,  | 140                   | May-Sept.         | 272                | 51                                 |
| 3320 | Rogue, South Fork near Prospect d                  | 25                    | May-July          | 52                 | 48                                 |
|      |  | 30                    | May-Sept.         | 64                 | 47                                 |
| 3350 | Rogue River below South Fork                       | 214                   | May <b>-</b> July | 443                | 48                                 |
| 1    |  | 314                   | May-Sept.         | 586                | 54                                 |
| 3590 | Rogue at Raygold near Central Point                | 250                   | May-July          | 567                | 44                                 |
|      |  | 370                   | May-Sept.         | 730                | 51                                 |
| 3615 | Rogue at Grants Pass                               | 350                   | May-Sept.         | 700                | 50                                 |
| 3135 | Umpqua, No. blw. Lemolo Res. nr. Toketee Falls     | 120                   | April-Sept.       | 186                | 64                                 |
|      |  |                       |                   |                    |                                    |
|      |  |                       |                   |                    |                                    |

| SNOW   |              | CUR          | RENT INFORMA | PAST RECORD |                       |                    |
|--|--------------|--------------|--------------|-------------|-----------------------|--------------------|
| SNOW COURSE                                  |              | DATE OF      | SNOW DEPTH   | WATER       | WATER CONTENT (Inches |                    |
| NAME   | ELEVATION    | SURVEY       | (Inches)     | (Inches)    | LAST YEAR             | 1948-62<br>AVERAGE |
| Billie Creek Divide<br>Diamond-Crater Summit | 5300<br>5800 | 5/27<br>5/27 | 0            | 0.0         | 0.0<br>7.8            | - <b>-</b>         |
| Diamond Lake                                 | 5315         | 5/27         | 0            | 0.0         | 0.8                   |                    |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.





Snow Course
 Precipitation Gage
 Radio Telemetry



# WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of JUNE 1, 1968

#### U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Klamath County water users this summer. An exception is the Klamath Project served by Clear Lake, Upper Klamath Lake and Gerber Reservoir which will have an average supply. Most local stream levels will approach the record-low figures experienced in the "thirties."

#### PRECIPITATION and SNOW COVER

Klamath County precipitation for the September 1967 to May 1, 1968 period was only two-thirds the usual amount. May precipitation was about average according to the U. S. Weather Bureau.

Snowpacks have disappeared except for that which remains at the very highest elevations.

#### RESERVOIR STORAGE

Upper Klamath Lake held 416,300 acre feet on June 1 compared to 560,200 acre feet last year on the same day. Clear Lake storage is currently 196,100 acre feet while Gerber contains 50,800 acre feet. These figures compare to last years 249,200 acre feet and 56,700 acre feet respectively.

#### STREAMFLOW

The May net inflow to Upper Klamath Lake was only 60,500 acre feet. This is 35 percent of the 1948-62 average.

Expected streamflow for the remainder of the runoff season, May through September, is as follows:

| Stream Station                | 1000's Acre Ft. | Percent Average (1948-62) |
|-------------------------------|-----------------|---------------------------|
| Clear Lake Inflow             | 8.5             | 49                        |
| Gerber Reservoir Inflow       | 2.5             | 40                        |
| Upper Klamath Lake Inflow     | 235             | 5 4                       |
| Sprague R. near Chiloquin     | 90              | 47                        |
| Williamson R. blw. Sprague R. | 191             | 57                        |

# WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

# RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

| STREAM or AREA  | FLOW                           | PERIOD                                      | RESERVOIR                                  | USABLE                 | MEASUR                 | ED (First o            | f Month)               |
|---|--------------------------------|---|--|------------------------|------------------------|------------------------|------------------------|
| OTHERW OF AREA  | SPRING SEASON                  | LATE SEASON                                 | RESERVOIR                                  | CAPACITY               | THIS YEAR              | LAST YEAR              | 1948-62<br>AVERAGE     |
| Ft. Klamath Valley Lost River (Clear Lake) Lost River (Gerber) Lost River (Willow Res.) Sprague River Upper Klamath Lake Williamson River | Spring peak<br>flows are past. | Poor Average Average Fair Poor Average Poor | Clear Lake<br>Gerber<br>Upper Klamath Lake | 440.2<br>94.0<br>584.0 | 196.1<br>50.8<br>416.3 | 258.9<br>81.8<br>560.2 | 249.2<br>56.7<br>541.4 |

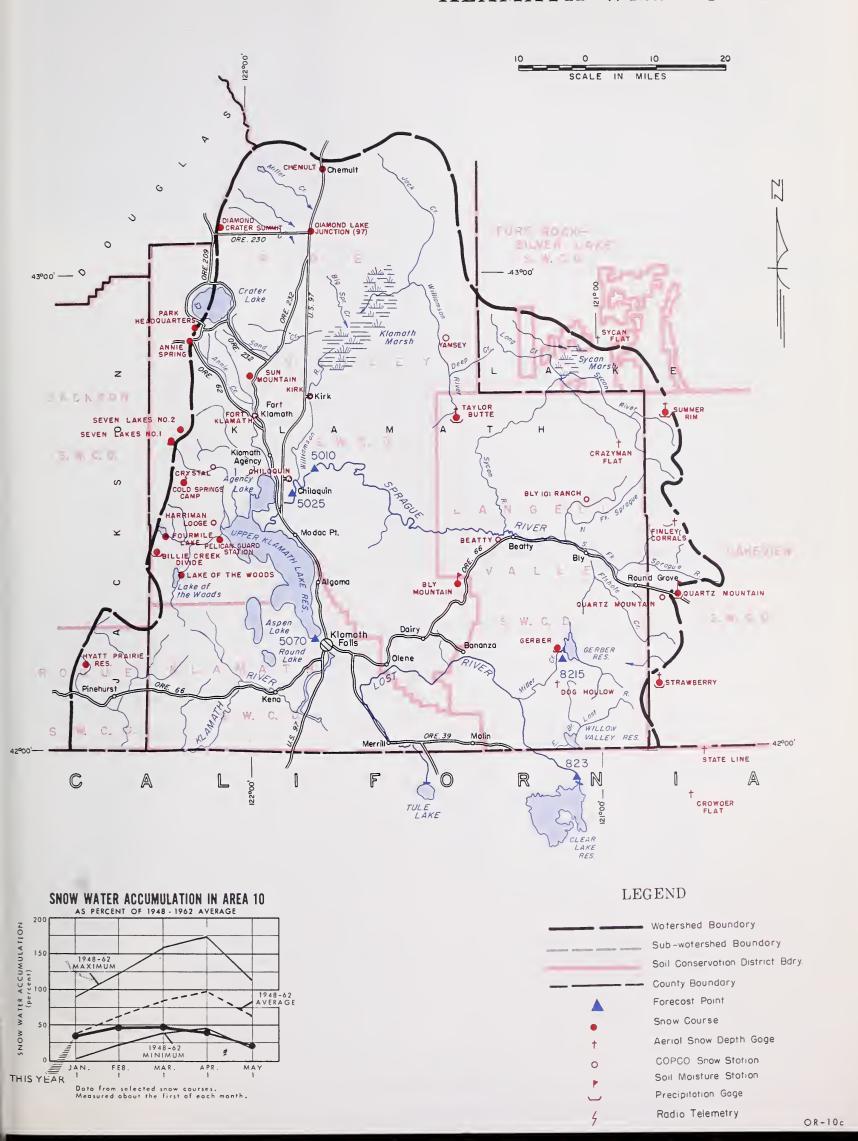
# STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.                                 | FORECAST POINT NAME  | FORECAST<br>THIS YEAR          | FORECAST PERIOD                                   | 1948-62<br>AVERAGE               | THIS YEAR<br>AS PERCENT<br>OF AVERAGE |
|-------------------------------------|--|--------------------------------|---|----------------------------------|---------------------------------------|
| 823<br>8215<br>5010<br>5070<br>5025 | Clear Lake Reservoir Inflow <sup>k</sup> Gerber Reservoir Inflow <sup>k</sup> Sprague near Chiloquin Upper Klamath Lake net Inflow <sup>k</sup> Williamson below Sprague River | 8.5<br>2.5<br>90<br>235<br>191 | May-Sept. May-Sept. May-Sept. May-Sept. May-Sept. | 17.4<br>6.2<br>190<br>438<br>336 | 49<br>40<br>47<br>54<br>57            |

| SOIL MOISTURE |           | PROFILE | (inches) | SOIL MOISTURE (Inches) |      |      |         |  |
|---------------|-----------|---------|----------|------------------------|------|------|---------|--|
| STATION       |           | DEPTH   | CAPACITY | DATE                   | THIS | LAST | 2 YEARS |  |
| NAME          | ELEVATION |         |          |                        | YEAR | YEAR | AGO     |  |
| Bly Mountain  | 5090      | 42      | 14.0     | 5/28/68                | 10.1 | 12.4 | 10.5    |  |
| ·             |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |
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|               |           | :       |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      | ,       |  |
|               |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |
|               |           |         |          |                        |      |      |         |  |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# KLAMATH WATERSHEDS



## Klamath Watersheds

| NOW   |  | CURE                                       | RENT INFORMA     | TION                            | PAST R                                 | ECORD        |
|---|--|--|------------------|---------------------------------|--|--------------|
| SNOW COURSE   | ELEVATION                                    | DATE OF<br>SURVEY                          | SNOW DEPTH       | WATER<br>CONTENT<br>(Inches)    | WATER CONT                             | ENT (Inches  |
| Billie Creek Divide Diamond-Crater Summit Diamond Lake Junction Quartz Mountain Quartz Mountain (PP&L) Sun Mountain | 5300<br>5800<br>4600<br>5320<br>5504<br>5350 | 5/27<br>5/27<br>5/27<br>6/1<br>6/1<br>5/27 | 0<br>0<br>0<br>0 | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 | 0.0<br>7.8<br>0.0<br>0.0<br>0.0<br>0.5 | <br><br><br> |
|   |  |  |                  |                                 |  |              |
|   |  |  |                  |                                 |  |              |
|   |  |  |                  |                                 |  |              |
|   |  |  |                  |                                 |  |              |



# WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

*as of*JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

This year's water supply in Lake Coutny is expected to be one of the poorest that has occurred during the past thirty-five years. The only exception will be the fair supply furnished by the Lakeview Water Users Association from their reservoirs. Most local stream levels are expected to nearly equal the record-lows experienced during the "thirties."

#### PRECIPITATION and SNOW COVER

Precipitation during the September 1, 1967 to May 1, 1968 period has been about three-fourths the usual amount. May precipitation was two-thirds of average according to the U.S. Weather Bureau.

Snowpacks have vanished except for that remaining on the highest peaks and ridges.

#### RESERVOIR STORAGE

On June 1 Drews Reservoir contained 39,700 acre feet compared to 70,000 acre feet last year on this date. Cottonwood is holding 3,300 acre feet compared to last year's 8,700 acre feet.

#### STREAMFLOW

Expected streamflows for the April-September period are as follows:

| Stream Station         | Acre Feet         | Percent Average (1948-62) |
|------------------------|-------------------|---------------------------|
| Chewaucan near Paisley | 40,000            | 4′5                       |
| Deep Cr. above Adel    | 27,000            | 38                        |
| Drews Res. Inflow      | (May-Sept.) 2,000 | 18                        |
| Honey near Plush       | 3,600             | 22                        |
| Twentymile near Adel   | 4,500             | 20                        |

# WATER SUPPLY OUTLOOK expressed as "Paar", "Fair" "Average" or "Excellent"

# RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

| STREAM or AREA   | FLOW PERIOD                 |   | RESERVOIR  | USABLE              | MEASUF                  | RED (First o        | f Month)            |
|--|-----------------------------|---|--|---------------------|-------------------------|---------------------|---------------------|
| STREAM OF AREA   | SPRING SEASON               | LATE SEASON                             | RESERVOIR  | CAPACITY            | THIS YEAR               | LAST YEAR           | 1948-62<br>AVERAGE  |
| Chewaucan Crooked Creek Deep Creek Dry Creek East Side Goose Lake Guano Lake Honey Creek Lakeview Water Users Assn. Rock Creek (Hart Mtn.) Silver-Buck Creeks Summer Lake Thomas Creek Twentymile Creek Warner Lakes | Spring peak flows are past. | Poor Poor Poor Poor Poor Poor Poor Poor | Cottonwood Drews Thompson Valley  *Average for years of record after reconstruction. | 8.7<br>63.0<br>17.4 | 3.3<br>39.7<br><i>b</i> | 8.7<br>70.0<br>18.6 | 6.5<br>52.6<br>13.0 |

# STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

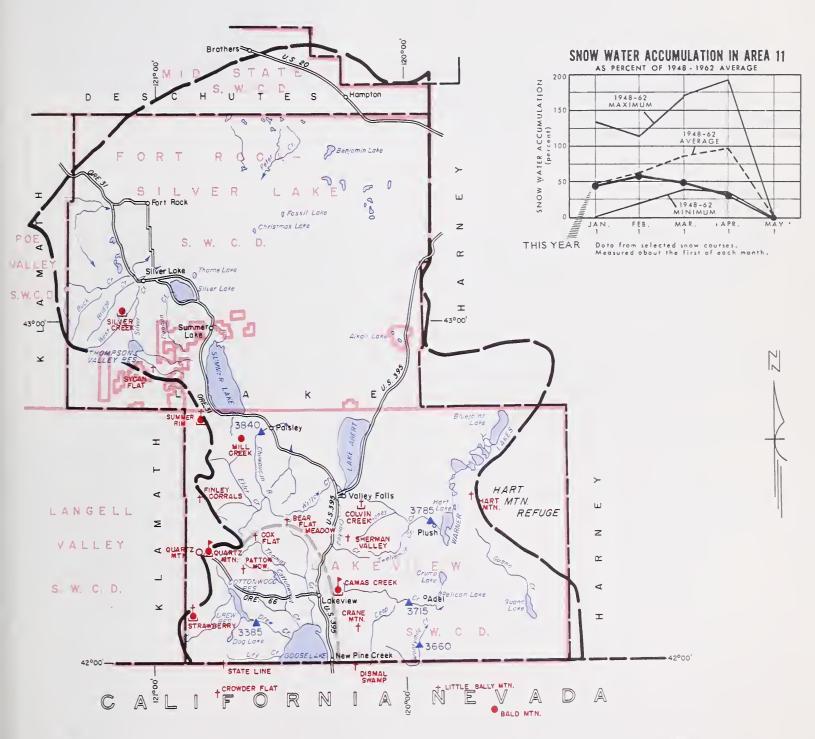
|      | FORECAST POINT                |           | FORECAST PERIOD           | 1948-62 | THIS YEAR<br>AS PERCENT. |
|------|-------------------------------|-----------|---------------------------|---------|--------------------------|
| NO.  | NAME                          | THIS YEAR |                           | AVERAGE | OF AVERAGE               |
| 3840 | Chewaucan near Paisley        | 35        | April-June                | 79      | 44                       |
| 3040 | Chewaddan hear raisiey        | 40        | April-Sune<br>April-Sept. | 88      | 45                       |
| 3715 | Deep above Adel               | 25        | April-June                | 68      | 37                       |
| 0710 | beep doore nace               | 27        | April-Sept.               | 72      | 38                       |
| 3385 | Drews Reservoir net Inflow d  | 2.0       | May-Sept.                 | 11.4    | 18                       |
| 3785 | Honey near Plush              | 3.4       | April-June                | 15.6    | 22                       |
|      |                               | 3.6       | April-Sept.               | 16.1    | 22                       |
| 3900 | Silver Creek near Silver Lake | 3.0       | May-July                  | 12.0    | 25                       |
|      |                               | 3.2       | May-Sept.                 | 13.8    | 23                       |
| 3660 | Twentymile near Adel          | 4.0       | April-June                | 21      | 19                       |
|      |                               | 4.5       | April-Sept.               | 22      | 20                       |
|      |                               |           |                           |         |                          |
|      |                               |           |                           |         | 1                        |
|      |                               |           |                           |         |                          |
|      |                               |           |                           |         |                          |

| SOIL MOISTURE                  |              | PROFILE  | (Inches) |                  | SOIL MOISTU              | RE (Inches)  |                |
|--------------------------------|--------------|----------|----------|------------------|--------------------------|--------------|----------------|
| STATION<br>NAME                | ELEVATION    | DEPTH    | CAPACITY | DATE             | THIS<br>YEAR             | LAST<br>YEAR | 2 YEARS<br>AGO |
| Camas Creek<br>Quartz Mountain | 5720<br>5320 | 42<br>48 | 14.5     | 5/1/68<br>5/5/68 | 12.8 <sup>f</sup><br>8.5 | 12.9         | 11.2           |
|                                |              |          |          |                  |                          |              | -              |

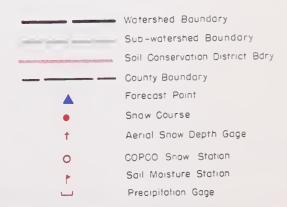
<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# LAKE COUNTY, GOOSE LAKE WATERSHEDS





#### LEGEND



# Lake County, Goose Lake Watersheds

| SNOW                                      |              | CUR        | CURRENT INFORMATION |                  |                      | PAST RECORD        |  |  |
|---|--------------|------------|---------------------|------------------|----------------------|--------------------|--|--|
| SNOW COURSE                               | -            | DATE OF    | SNOW DEPTH          | WATER<br>CONTENT | WATER CONTENT (Inche |                    |  |  |
| NAME                                      | ELEVATION    | SURVEY     | (Inches)            | (Inches)         | LAST YEAR            | 1948-62<br>AVERAGE |  |  |
| Quartz Mountain<br>Quartz Mountain (PP&L) | 5320<br>5504 | 6/1<br>6/1 | 0                   | 0.0              | 0.0                  |                    |  |  |
|   |              |            |                     |                  |                      |                    |  |  |
|   |              |            |                     |                  |                      |                    |  |  |
|   |              | ÷          |                     |                  |                      |                    |  |  |
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|   |              |            |                     |                  |                      |                    |  |  |
|   |              |            |                     |                  |                      |                    |  |  |
|   |              |            |                     |                  |                      |                    |  |  |
|   |              |            |                     |                  |                      |                    |  |  |
|   |              |            |                     |                  |                      |                    |  |  |



# WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS **OREGON**

as of JUNE 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

#### GENERAL OUTLOOK

The poorest water supplies in about thirty-five years are expected for Harney County water users this summer. Most local streams have already dropped to levels comparable to the record-lows of the "thirties." Drying soils have absorbed most of the rainfall received during the last month.

#### PRECIPITATION and SNOW COVER

Precipitation in Harney County during the September 1, 1967 to May 1, 1968 period has been two-thirds of average. May precipitation was one-half (49 percent) of average according to the U.S. Weather Bureau.

Snow cover has vanished except at the very highest elevations in the county.

#### STREAMFLOW

Expected streamflows for the April through September period are as follows:

| Stream Station           | Acre Feet    | Percent Average (1948-62) |
|--------------------------|--------------|---------------------------|
| Donner und Blitzen River | 15,000       | 2 4                       |
| Silver near Riley (Apr.  | -July) 3,500 | 16                        |
| Silvies R. near Burns    | 15,000       | 1 5                       |
| Trout Creek near Denio   | 2,500        | 30                        |

### WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) June 1, 1968

| STREAM or AREA   | FLOW                        | PERIOD                                  | RESERVOIR | USABLE   | MEASURED (First of Month) |           |                 |
|--|-----------------------------|---|-----------|----------|---------------------------|-----------|-----------------|
|  | SPRING SEASON               | LATE SEASON                             | RESERVOIR | CAPACITY | THIS YEAR                 | LAST YEAR | 1948-6<br>AVERA |
| Catlow Valley Cow Creek Donner und Blitzen River Mill-Coffeepot Creeks Rattlesnake Creek Silver Creek Silvies River Soldier-Prather Creek Trout Creek Whitehorse Creek | Spring peak flows are past. | Poor Poor Poor Poor Poor Poor Poor Poor |           |          |                           |           |                 |

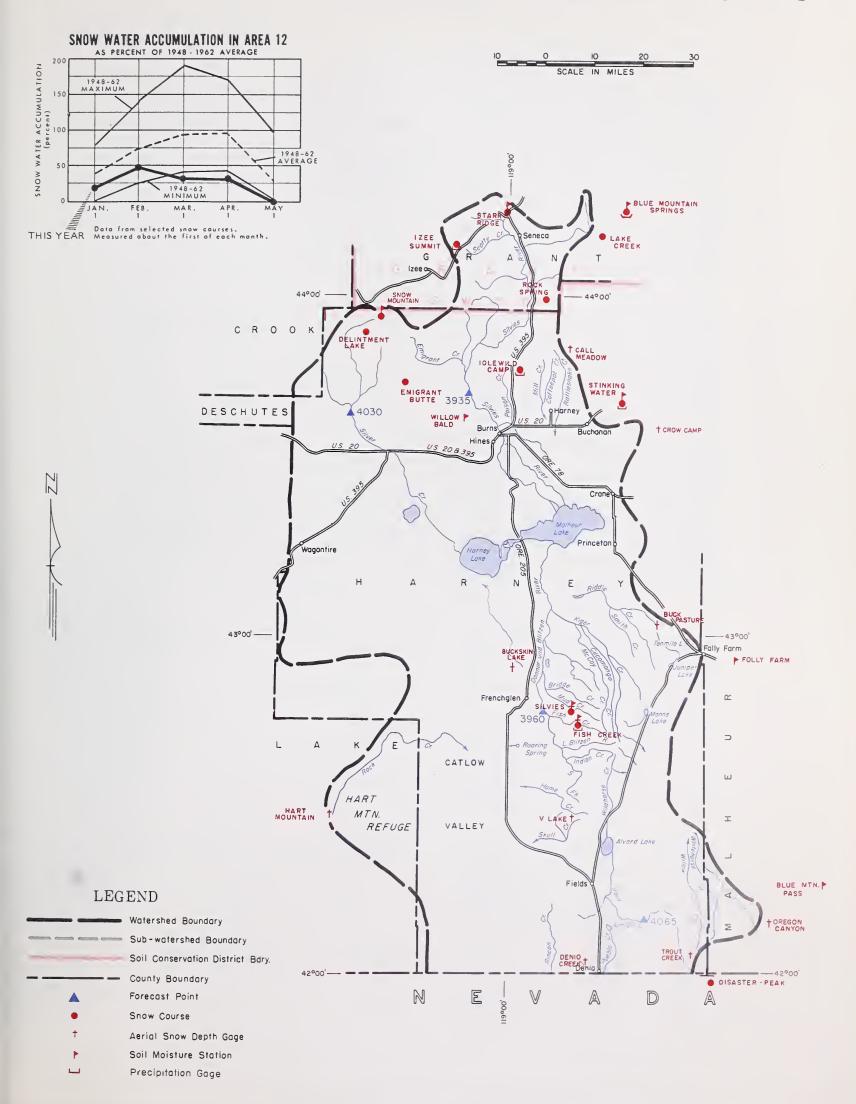
#### STREAMFLOW FORECASTS a (1,000 Ac. Ft.) as of June 1, 1968

| NO.  | FORECAST POINT NAME                | FORECAST<br>THIS YEAR | FORECAST PERIOD           | 1948-62<br>AVERAGE | AS PERCEN<br>OF AVERAGE |
|------|------------------------------------|-----------------------|---------------------------|--------------------|-------------------------|
| 3960 | Donner und Blitzen near Frenchglen | 13<br>15              | April-June<br>April-Sept. | 52<br>62           | 25<br>24                |
| 1030 | Silver near Riley                  | 3.5                   | April-July                | 22                 | 16                      |
| 3935 | Silvies near Burns                 | 13                    | April-June                | 96                 | 14                      |
|      |                                    | 15                    | April-Sept.               | 99                 | 15                      |
| 1065 | Trout near Denio                   | 2.0                   | April-June                | 7.4                | 27                      |
|      |                                    | 2.5                   | April-Sept.               | 8.4                | 30                      |
|      |                                    |                       |                           |                    |                         |
|      |                                    |                       |                           |                    |                         |
|      |                                    |                       |                           |                    |                         |
|      |                                    |                       |                           |                    |                         |

| SOIL MOISTURE  |  | PROFILE (Inches)                             |   | SOIL MOISTURE (Inches)              |                             |   |  |
|--|--|--|---|-------------------------------------|-----------------------------|---|--|
| STATION<br>NAME  | ELEVATION  | DEPTH  | CAPACITY  | DATE                                | THIS<br>YEAR                | LAST<br>YEAR                            | 2 YEARS<br>AGO                             |
| Blue Mountain Springs Fish Creek Folly Farm Silvies Snow Mountain Starr Ridge Stinking Water Willow-Bald | 5900<br>7900<br>4450<br>6900<br>6300<br>5150<br>4800<br>5000 | 42<br>48<br>30<br>48<br>48<br>36<br>48<br>24 | 16.9<br>15.0<br>12.5<br>16.4<br>16.7<br>10.6<br>21.9<br>6.6 | 5/31/68 b b 6/4/68 5/31/68 b 6/4/68 | 12.2<br>12.4<br>10.4<br>3.2 | 13.1<br><br><br>16.7<br>10.4<br><br>6.4 | 11.4<br><br><br>16.4<br>9.0<br>21.4<br>4.6 |

<sup>(</sup>a) Assuming normal meteorological conditions. (b) No report. (c, . t scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

# HARNEY BASIN WATERSHEDS



Harney Basin Watersheds

# PREVIOUSLY UNPUBLISHED OREGON SNOW SURVEY DATA 1967-68 Season

| SNOW COURSE<br>Name        | No.    | Date   | Depth (In.)   | Water (In.)   |
|----------------------------|--------|--|---|---|
| Blue Mountain Camp         | 18D16  | 11/29/67   | 9   | 1.2   |
| Cascade Summit             | 22F3   | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68<br>5/15/68  | 37<br>46<br>36<br>31<br>4                               | 10.9<br>15.0<br>13.3<br>12.2  |
| Cascade Summit (Alternate) | 22F29  | 1/2/68<br>1/15/68<br>2/1/68<br>2/15/68<br>3/1/68<br>3/15/68<br>4/1/68<br>4/15/68<br>5/1/68 | 28<br>37<br>56<br>47<br>36<br>36<br>34<br>30<br>21<br>4 | 8.1<br>10.8<br>13.2<br>15.8<br>13.5<br>12.7<br>13.2<br>11.8<br>8.6<br>1.8 |
| Champion                   | 22F9   | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68   | 49<br>53<br>30<br>22                                    | 17.1<br>21.1<br>11.5<br>9.9   |
| Cooper Spur                | 21D25  | 11/1/67<br>12/3/67<br>12/15/67<br>1/15/68  | 0<br>8<br>10<br>11                                      | 0.0<br>1.8<br>2.5<br>4.7  |
| Detroit City               | 22E1   | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68  | 0<br>0<br>0<br>0  | 0.0<br>0.0<br>0.0<br>0.0  |
| Detroit Dam                | 22E2   | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68  | 0<br>0<br>0<br>0  | 0.0   |
| East Fork Canyon           | 18E27a | 2/8/68   | 6   | 1.5   |
| Fish Creek                 | 18G2a  | 2/27/68<br>3/29/68   | 36<br>33  | 13.0<br>11.9  |

| SNOW COURSE Name            | No.            | Date  | Depth (In.)                | Water (In.)                          |
|-----------------------------|----------------|---|----------------------------|--------------------------------------|
| Fourmile Lake               | 22G12          | 4/9/68  | 31                         | 14.6                                 |
| Gerber                      | 21G4           | 12/15/67<br>1/15/68<br>3/15/68                      | 9<br>10<br>0               | 1.2<br>2.0<br>0.0                    |
| Golden Curry Creek          | 22F10          | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68            | 0<br>0<br>0<br>0           | 0.0                                  |
| Goodrich Lake               | 18E6           | 2/10/68<br>5/10/68                                  | 69<br><b>5</b> 6           | 28.6<br>27.3                         |
| Hogg Pass                   | 21E6           | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68 | 49<br>53<br>51<br>51<br>26 | 16.3<br>19.8<br>19.4<br>20.1<br>11.3 |
| Indian Creek Butte          | 18E24a         | 2/8/68  | 41                         | 10.2                                 |
| Lake Creek<br>(New Tangent) | 18E18          | 12/29/67<br>1/29/68<br>2/28/68<br>3/28/68           | 9<br>24<br>15<br>6         | 2.1<br>4.4<br>5.1<br>2.2             |
| Lake of the Woods           | 22G15          | 1/12/68<br>2/13/68<br>3/15/68<br>4/17/68<br>5/12/68 | 25<br>24<br>13<br>3<br>0   | 6.0<br>7.6<br>4.4<br>0.9             |
| Layng Creek R. S.           | 2 <b>2</b> F13 | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68            | 0<br>0<br>0                | 0.0<br>0.0<br>0.0                    |
| Lund Park                   | 22F12          | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68            | 0<br>0<br>0<br>0           | 0.0<br>0.0<br>0.0                    |
| Marion Forks                | 21F4           | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68 | 21<br>30<br>14<br>0        | 7.3<br>11.7<br>5.8<br>0.0<br>0.0     |

| SNOW COURSE<br>Name            | No.          | Date  | Depth (In.)                         | Water (In.)                                   |
|--------------------------------|--------------|---|-------------------------------------|---|
| McCredie Springs               | <b>2</b> 2F6 | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68<br>5/15/68   | 0<br>0<br>0<br>0                    | 0.0<br>0.0<br>0.0<br>0.0                      |
| Meridian Dam                   | 22F8         | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68<br>5/15/68   | 0<br>0<br>0<br>0                    | 0.0<br>0.0<br>0.0<br>0.0                      |
| Mill City                      | 22E3         | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68   | 0<br>0<br>0<br>0                    | 0.0<br>0.0<br>0.0<br>0.0                      |
| Oakridge                       | 22F7         | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68<br>5/15/68   | 0<br>0<br>0<br>0                    | 0.0<br>0.0<br>0.0<br>0.0                      |
| Parkdale                       | 21D23        | 11/1/67<br>12/3/67<br>12/15/67<br>1/15/68<br>2/15/68  | 0<br>T<br>0<br>T<br>0               | 0.0<br>T<br>0.0<br>T                          |
| Peavine Ridge                  | 21D14        | 2/15/68   | 26                                  | 10.4  |
| Quartz Mountain                | <b>2</b> 0G6 | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68  | 17<br>20<br>0<br>0                  | 5.4<br>6.6<br>0.0                             |
| Quartz Mountain<br>(Extension) | 20G6         | 12/27/67<br>1/15/68<br>1/30/68<br>2/15/68<br>3/1/68<br>3/15/68<br>3/28/68<br>4/15/68<br>4/29/68 | 16<br>18<br>27<br>20<br>7<br>0<br>0 | 3.9<br>5.1<br>6.3<br>7.0<br>2.7<br>0.0<br>0.0 |
| Quartz Mountain (PP&L)         | 9            | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68  | 21<br>23<br>10<br>0                 | 6.1<br>7.1<br>4.1<br>0.0                      |

| SNOW COURSE Name              | No.            | Date   | Depth (In.)               | Water<br>(In.)                    |
|-------------------------------|----------------|--|---------------------------|-----------------------------------|
| Railroad Overpass             | 22F5           | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68<br>5/15/68  | 0<br>0<br>0<br>0          | 0.0<br>0.0<br>0.0<br>0.0          |
| Salt Creek Falls              | 22F4           | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68<br>5/15/68  | 24<br>27<br>14<br>T<br>0  | 8.1<br>9.5<br>4.4<br>T<br>0.0     |
| Santiam Junction              | 2105           | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68  | 39<br>41<br>13<br>4<br>0  | 12.5<br>15.5<br>4.3<br>0.6<br>0.0 |
| Silvies                       | 18Gla          | 3/29/68  | 0                         | 0.0                               |
| Siskiyou Summit               | 22G2O          | 1/15/68<br>2/14/68<br>3/16/68<br>4/12/68             | 23<br>21<br>T<br>0        | 7.8<br>8.6<br>T<br>0.0            |
| Still Creek<br>(Experimental) | 21D9           | 1/3/68<br>1/30/68<br>3/1/68<br>3/28/68<br>4/29/68    | 23<br>36<br>17<br>13<br>4 | 6.5<br>10.8<br>7.0<br>5.2<br>1.4  |
| Strawberry                    | <b>2</b> 0G9a  | 2/1/68<br>2/26/68<br>3/ <b>2</b> 7/68                | 20<br>6<br>T              | 5.0<br>2.3<br>T                   |
| Summer Rim                    | 20G <b>2</b> a | 2 <b>/2</b> 6/68<br>3 <b>/</b> 27/68                 | 30<br>30                  | 10.8<br>12.0                      |
| Tollgate                      | 18D3           | 11/29/67   | 9                         | 1.2                               |
| Umbrella Falls                | 21D30          | 6/26/67<br>11/1/67<br>12/4/67                        | 24<br>T<br>41             | 12.8<br>T<br>2.6                  |
| Upper Valley                  | 21D24          | 11/1/67<br>12/3/67<br>12/15/67<br>1/15/68<br>2/15/68 | 0<br>T<br>T<br>6<br>0     | 0.0<br>T<br>T<br>2.2<br>0.0       |

| SNOW COURSE Name    | No.   | Date  | Depth (In.)        | Water (In.)              |
|---------------------|-------|---|--------------------|--------------------------|
| Weaver Creek        | 22F11 | 1/15/68<br>2/15/68<br>3/15/68<br>4/15/68            | 0<br>0<br>0        | 0.0<br>0.0<br>0.0        |
| Weston Mountain     | 18D17 | 11/29/67  | 3                  | 0.8                      |
| Whitewater Bridge . | 21E3  | 1/15/68<br>2/15/68<br>3/14/68<br>4/15/68<br>5/15/68 | 10<br>10<br>0<br>0 | 3.2<br>4.2<br>0.0<br>0.0 |
| Williams Ranch      | 18E25 | 2/8/68  | 0                  | 0.0                      |

ERRATA: 1968 SNOW MEASUREMENTS PUBLISHED IN ERROR

| SNOW COURSE Name   | No.    | Date               | Depth (In.) | Water (In.)  |
|--|--------|--------------------|-------------|--------------|
| Bear Flat Meadow<br>Previously Published<br>Correct Data | 20G15a | 2/1/68<br>2/1/68   | 25<br>24    | 6.2<br>6.0   |
| Call Meadows Previously Published Correct Data           | 18F7a  | 2/4/68<br>2/4/68   | 4<br>1      | 0.8          |
| Cascade Summit Previously Published Correct Data         | 22F3   | 4/1/68<br>4/1/68   | 36<br>37    | 14.9<br>14.9 |
| Cox Flat Previously Published Correct Data               | 20Glla | 2/1/68<br>2/1/68   | 24<br>23    | 6.0<br>5.8   |
| Crane Mountain<br>Previously Published<br>Correct Data   | 20G16a | 1/26/68<br>1/26/68 | 4<br>3      | 1.0          |

| SNOW COURSE Name  | No.               | Date               | Depth (In.) | Water (In.)  |
|---|-------------------|--------------------|-------------|--------------|
| Fish Creek (Aerial) Previously Published Correct Data     | 18G <b>2</b> MA   | 2/4/68<br>2/4/68   | 15<br>23    | 3.0          |
| Flag Prairie<br>Previously Published<br>Correct Data      | 18E26a            | 2/4/68<br>2/4/68   | 13<br>13    | 2.6<br>1.6   |
| Hart Mountain<br>Previously Published<br>Correct Data     | 19G1              | 2/1/68<br>2/1/68   | 4<br>3      | 1.0          |
| Howard Prairie<br>Previously Published<br>Correct Data    | 22G6              | 3/30/68<br>3/30/68 | 0<br>4      | 0.0          |
| Hyatt Prairie<br>Previously Published<br>Correct Data     | 22G16<br>(Area 9) | 3/20/68<br>3/30/68 | 0           | 0.0          |
| Lake of the Woods<br>Previously Published<br>Correct Data | 22G15             | 5/1/68<br>4/28/68  | 0<br>0      | 0.0          |
| Mill Creek<br>Previously Published<br>Correct Data        | 20G4              | 2/28/68<br>2/28/68 | 13<br>13    | 4.5<br>4.9   |
| Moss Spring<br>Previously Published<br>Correct Data       | 17D6              | 2/7/68<br>2/7/68   | 33<br>32    | 11.2<br>11.2 |
| North Umpqua<br>Previously Published<br>Correct Data      | 22F16             | 2/28/68<br>2/28/68 | 12<br>13    | 4.6<br>4.6   |
| Quartz Mountain<br>Previously Published<br>Correct Data   | 20G6              | 3/1/68<br>3/1/68   | 7<br>7      | 2.1<br>2.5   |
| Seven Lakes #1 Previously Published Correct Data          | 22G10             | 3/27/68<br>3/28/68 | 73<br>73    | 30.9<br>30.9 |
| Sherman Valley<br>Previously Published<br>Correct Data    | 20G10             | 2/1/68<br>2/1/68   | 22<br>21    | 5.5<br>5.2   |
| Siskiyou Summit<br>Previously Published<br>Correct Data   | 22G2O             | 3/30/68<br>4/1/68  | 0           | 0.0          |

| SNOW COURSE Name                                      | No.          | Date                       | Depth (In.) | Water (In.) |
|---|--------------|----------------------------|-------------|-------------|
| Snow Mountain<br>Previously Published<br>Correct Data | 19F1         | 4/1/68<br>4/1/68           | 9           | 3.2<br>3.3  |
| Standley Previously Published Correct Data            | 17Dlla       | 2/7/68<br>2/7/68           | 59<br>34    | 20.1        |
| Summer Rim<br>Previously Published<br>Correct Data    | 20G <b>2</b> | 2/1/68<br>2/1/68           | 36<br>35    | 9.0         |
| Previously Published<br>Correct Data                  |              | 2/27/68<br><b>2/2</b> 7/68 | 31<br>31    | 10.6        |
| Trout Creek Previously Published Correct Data         | 18G5a        | 2/4/68<br>2/4/68           | 6<br>5      | 1.2         |
| TV Ridge<br>Previously Published<br>Correct Data      | 17D15a       | 2/7/68<br>2/7/68           | 27<br>20    | 9.2<br>6.8  |

# SNOW SURVEYS AT RADIO-TELEMETRY SITES for Calibration Purposes

| Site          | No.   | Date                          | Depth (In.)    | Water (In.)          |
|---------------|-------|-------------------------------|----------------|----------------------|
| Cold Springs  | 22G24 | 2/23/68                       | 40             | 13.6                 |
| Irish-Taylor  | 21F6  | 1/31/68<br>2/28/68<br>3/26/68 | 46<br>46<br>62 | 18.0<br>17.8<br>22.2 |
| Peavine Ridge | 21D14 | 2/15/68                       | 28             | 11.4                 |



| LOCATION ELEN  | VOUBL & YARE   | LOCATION ELEV.                                      | NUMBER NAME  | LOCATION ELEV.   | NUMBER                     | NAME   | LOCATION ELEV.                                      |                            |   |  |
|--|--|---|--|--|----------------------------|--|---|----------------------------|---|--|
| WYHEE MALHEUR WATERSHEDS (1)   | 19FCNa Merritt Mountain (Nev)<br>10HJAF Midas (Nev)  | 10 46N 54E 7000<br>18 39N 46E 7200                  | 18F8a Crow Camp                                    | Unaurveyed (2)   | 17D12m                     | Ladd Summit  | SEC. TWP. RGE.                                      | NUMBER                     | NAME  | LOCATION   |
| Owhere w. " " " " " " " " " " " " " " " " " "  | logry Rud Flat (Ida)<br>1-15a Cregon Canyon  | 34 98 2W 5500<br>8 408 40E 6950                     | 18E26a Flag Prairie                                | 20 148 38E 4600<br>32 16S 36E 4750<br>10 16S 33&E 5120   | 18E23<br>18E30<br>18E28    | Little Alps<br>Little Antone   | 5 58 39E 3730<br>10 78 37E 6200<br>1 78 37E 5000    |                            | UPPER JOHN DAY WAT                                      | ERSHEDS (4)  |
| 1.50 E. S. C.  | THOS Quinn Ridge (Nev)  10311apt Red Canyon (Ida)  15HeVF Rodec Flat (Nev)   |   | 18E22a Logan Valley                                | 13 16S 33½E 5100<br>23 18S 32E 5100  | 1707                       | Power Plant<br>Taylor Greon  | 33 7S 38E 3990<br>3 6S 42E 5740                     | 19D2P<br>18D12M1           | Arbuckle Mannet   | River  |
| 95 25 25 25 25 25 25 25 25 25 25 25 25 25  | 16F3AP* Silver City (Ida)  | 6 44N 5SE 7100                                      | 18B32p* S. Fk. Willow Cr.<br>18F4MP Stinking Water | 2 16S 37E 5500<br>33 21S 34E 4800  | 17D8                       | Pine Creek<br>Schneider Meadows  |   | 1982M<br>18816MF           | Beech Creek Summit Beech Mountain Summit                | 33 48 29E<br>29 38 31E<br>4 128 30E<br>21 158 35E      |
| The state of the second |  | 35 32S 32&E 6900<br>10 2S 5W 6340                   | BLIRNIT POWDER, PIN                                | NE, GRANDE   |                            | Grande Ronde R   | 35 6S 45E 5400                                      | 18E13M<br>19E3MP           | Derr Derr   |  |
| 201 202   10   10   10   10   10   10  | 1:HPMT Taylor Canyon (Nev)<br>LoH's Toe Jaz (Nev)  | 25 38 5W 6100<br>35 39N 53E 6200<br>29 40N 50E 7700 | RONDE, IMNAHA W                                    |  | 17D1<br>17D2P<br>18E1      | Aneroid Lake No. 1<br>Aneroid Lake No. 2                               | 16 4S 45E 7480<br>16 4S 45E 7300                    | 18E27a<br>18E8<br>18E24a   | East Fork Canyon<br>Gold Center<br>Indian Cr. Butte     | 15 158 32E<br>21 98 36E                                |
| 25 355 mm  | low.MA Triangle (Ida)  | 9 39N 55B 5700                                      | 18E13M Barney Creek 18E13M Blue Mountain Summit    | 16 14S 36E 5950<br>6 12S 36E 5098  | 17DlOa<br>18D9             | Anthony Lake<br>Bald Mountain<br>Beaver Reservoir                      | 14 4S ATE 6700                                      | 19E9P<br>18D6P<br>20E1MP   | Lucky Strike  | 5 15S 33E<br>28 16S 29E<br>28 3S 32E                   |
| 100    | 1807a "V" Lake<br>26010a Vaught Ranch (Ida)  | 31 35½S 32½E 6600<br>10 11S 1W 5950                 | 18E20 Eldorado Pass                                | 32 11S 40E 5430<br>20 14S 38E 4600<br>21 9S 36E 5340   | 18D8 P<br>18D6 P<br>18D5   | County Line<br>Lucky Strike  | 8 55 37E 5340<br>28 4S 34E 4800<br>28 3S 32E 5050   | 20E2<br>18E7               | Marks Creek<br>Ochoco Meadows<br>Olive Lake             | 21 13S 19E   |
|  |  | 20 50 211 0000                                      | 18E9 Gold Center<br>Tipton                         | 34 10S 35½E 5100   | 17D13a<br>17D6M            | Mirror Lake Moss Spring  | % 25 1S 35E 4300<br>34 4S 44E 8200                  | 18D7<br>19F1M<br>19E7M     | Schoolmarm<br>Snow Mountain                             | 14 9S 34E<br>28 4S 34E<br>1 19S 26E                    |
| The second secon | Malheur River  |   | Powder Ri 18E1 Anthony Lake 18E33 Anthony Col Will | ver<br>18 7\$ 37E 7125   | 18D7<br>17D11a<br>17D7     | Schoolmarm<br>Standley<br>Taylor Green                                 | 28 4S 34E 4775<br>28 2S 42E 7400                    | 18E9<br>18E25MP            | Starr Ridge<br>Tipton<br>Williams Ranch                 | 20 15S 31E<br>34 10S 354E                              |
| 1 7/5 40E 40M  | 18Fba Buck Pasture   | 2 298 358 5700                                      | Anthony Ski Hill<br>Bourne<br>Dooley Mountain      | 33 8\$ 37E 5800<br>32 119 40E 5430   | 18D3M<br>17D15 a           | Tollgate TV Ridge  | 3 6S 42E 5740<br>31 4N 38E 5070<br>12 2S 43E 7000   |                            | UPPER DESCHUTES, CROOKE                                 | D WATERSHEDS   |
| The last the second of the sec | 12FTa Call Meadows<br>17F2s Cottonwood-Indian  | 29 20\$ 33E 5340<br>19\$ 39E 4320                   | 1SES Gold Center                                   | 18 8S 38E 5400<br>21 9S 36E 5340   | 1701                       | Imnaha River<br>Aneroid Lake No. 1                                     |   | 21E11                      | Black Pine Spring                                       | River  |
| The long layer New 18 LV CIE of the Market New 18 LV CIE Of the Cieff  | 18519M Crane Prairie 2   | 1 10S 3/F 6272                                      | 18E0A Goodrich Lake<br>18E29 Intake House          | 4 98 38E 6775<br>5 8S 38E 4930   | 17D2P<br>17D14a            | Aneroid Lake No. 2<br>Big Sheep  | 16 4S 45E 7480<br>16 4S 45E 7000<br>33 4S 46E 6200. | 21F8<br>22F3<br>21F11      | Caldwell Ranch<br>Cascade Summit<br>Chemult             | 14 16S 9E<br>30 21S 8E<br>7 23S 6E                     |
|  | 122° _ 121°  | 120.  |  |  | U                          | MATILLA, WALLA WALLA, W<br>LOWER JOHN DAY WATE                         | III OW BOOK   | 21F20P<br>21F14            | Deer Creek<br>Fire Road                                 | 25 20S 7E  |
| W See See See See See See See See See Se   | A"SHII   | N G T   | O N  | 7*<br> -7  | 10000                      | Umotilla Rive  | г   | 21E6<br>21F4<br>21F6 *     | Hogg Pass<br>Hungry Flat                                | 36 21S 11E<br>24 13S 7½E<br>30 18S 11E<br>25 20S 6E    |
| refersos.  |  |   |  |  | 19D2P<br>18D14m<br>18D12MP | Arbuckle Mountain<br>Athena-Weston Summit<br>Battle Mountain Summit    | 33 4S 29E 5400<br>21 4N 35E 1700                    | 21F17<br>21F10             | Irish-Taylor<br>Mowich<br>New Crescent Lake             | 29 25S 25E   |
| ( OL 1 4 STA   |  |   | tapis*   | Tens   | 18D4M<br>18D6 P            | Emigrant Springs<br>Lucky Strike                                       | 29 3S 31E 4340<br>29 1N 35E 3925<br>28 3S 32E 5050  | 21F19P<br>21F13P<br>21F15  | New Dutchman Flat #2<br>Paulina Lake<br>Paulina Prairie | 21 18S 9E  |
| ₹ PORTLAND   | COLUMBIA R   | IVER TO   | Sporillo River 18018                               | was low lated  | 18D5<br>18D3M<br>18D13     | Meacham 24<br>Tollgate<br>Walla Walla Diversion                        | & 25 1S 35E 4300<br>32 4N 38E 5070                  | 21F3<br>21E15              | Tangent<br>Three Creeks Butte                           | 28 21S 11E<br>28 18S 10E<br>27 16S 9E                  |
| = ( - )   \_   | SIDE OF SIDE OF  | Les La       | 18040  | TON BUR! FREN  |                            | Wolla Walla Riv  | 22 6N 38E 2400                                      | 21E13<br>22F2 P<br>22F14 * | Three Creek Meadows<br>Waldo Lake<br>Willamette Pass    | 34 16S 9E<br>15 21S 6E                                 |
| P LLANDER  | 2000 2000 CO 3000 CO 3 | ROS CYER XI   | MAT I BOS  | 1701   | 18D16<br>18D3M<br>18D17    | Blue Mountain Camp<br>Tollgate<br>Weston Mountain                      | 35 4N 37E 4300<br>32 4N 38E 5070                    | 22F15                      | Windigo Pass  | 33 24S 5½E<br>32 25S 6E                                |
| YANNI.L CLAS   | SHERMAN 6  | ILLIAM MORROW                                       | (BD6) U N I O N 17                                 | D6 17D13 17D2  | 10017                      | Willow Creek   | 25 4N 35E 2700                                      | 19E3MP                     | Crooked River   |  |
| \$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \   | 20:5 20:7 2:013 WAS(CO)  | 1902  | 18012 1807 18E30<br>18E1 18E30                     | 1707 1708  | 19D2 P<br>18EL P           | Arbuckle Mountain<br>Anthony Lake                                      | 33 4S 29E 5400<br>18 7S 37E 7125                    | 20E1MP<br>20E2<br>19F1M    | Marks Creek<br>Ochoco Meadows                           | 14 13S 23E 2<br>25 12S 19E 2<br>21 13S 20E 2           |
| 17   | 235  |   | 18 23 18 E26                                       | And le con   | 1                          |  |   | 19E4                       | Snow Mountain<br>Tamarack                               | 1 198 26E 6<br>8 15S 25E 2                             |
| 225  | 225  |   | IBE7 IBE8 IBE5 IBE6                                | Alver A  |                            |  |   | HOOD,                      | MILE CREEKS LOWER DESCHU                                | JTES WATERSHEDS  |
| 223  | JEFFERSON DEFFERSON  | WHEELER 19  | SE20 IBEI3 RIVER                                   | River Ja   |                            |  | 77  | 21D6F<br>21D25M            | Hood River Brooks Meadows Cooper Spur                   | 2 2S 10E 4   |
| المام  | 255 2166   | 19E3 On 00  | AVET 18E20   | The state of the s | ·                          | LEGEND   |   | 21D2O                      | Greenpoint Reservoir<br>Knebal Springs                  | 6 2S 10E 3<br>28 2N 9E 3<br>31 1S 11E 3                |
| 6 - 4  |  | KU 7  | 1957 B627 18822 18816 18 32                        | may - day 0  |                            | DEGEND   |   | 21D23<br>21D8 *<br>21D4    | Phlox Point   | 6 3S 9E 5  |
| 16 16 12 22 16 2   | 25 224 2 2 2 2 2 1 2 1 2 1 2 2 2 2 2 2 2 2   | 19E9  | 18E25 18E18 18E19 6E26                             | Cide.  |                            | <ul> <li>Wotershed Boundary</li> <li>Sub-watershed Boundary</li> </ul> | 440   | 2107                       | Still Greek<br>Tilly Jane                               | 20 1S 9E 4<br>25 3S 8½E 3<br>15 2S 9E 6                |
|  | OF CHUTES  | ~   | 017  | F2 RIVE!   | •                          | Snow Course  |   | 21D30                      | Ulrich Ranch Junction<br>Umbrella Falls<br>Upper Valley | 28 1S 11E 3<br>3 3S 9E 5.<br>20 1S 10E 2               |
|  | 21F5 21F5<br>22F5 21F5   | 19F2  | 18F7 Moins   | W BOOK   | 0                          | PP&L Snow Station  |   |                            | Switchback Mile Creeks - Mosie                          | 28 1S 9E 3;  |
| 27 27 27 27 27 27 27 27 27 27 27 27 27 2   | 22F20 21F20 21F3<br>22F2 21F3 21F3<br>22F4   | 954   | Carl A /   | - 2  |                            |  | "   |                            | Brooks Meadows<br>Knebal Springs                        | 2 2S 10E 4<br>31 1S 11E 3                              |
|  | 22.3 FED.  | Cre   | Malheur 8WY  | E STATE OF THE SECOND S |                            | 1  |   | 21D21                      | Knebal Springs Ulrich Ranch Junction Lower Deschutes R  |  |
| The same of the sa | 22750<br>PG 22710  | ,   | LOAD MA  | LHEUR  |                            |  |   | 21D22                      | Glear Lake<br>Glear Lake Experimental                   | 29 4S 9E 35  |
| 22 F 28 12 F 27  | 2:FIS 2:FIB 0:FIB  | - Horney<br>Lake                                    | 1858   | 1616   | F3                         |  | 43°   | 21E6                       | Hogg Pass  LOWER COLUMBIA WATER                         | 24 138 7½E 47<br>RSHEDS (7)                            |
| 22524 22727  | Croter L C   | ≺ Е Н А   | R N E Y  | 1703   | 6G13                       |  |   | 2108 *                     | Sondy River<br>Phlox Point                              | 6 3S 9E 56   |
| 2330 0 pm 242122   | Symme Lake   |   | Sir 18GI   | 1631 1635  | 1666                       |  |   |                            | Still Greek WILLAMETTE WATERSH                          | 25 3S 8½E 37   |
| 223  | 2032 2034<br>2032 2034   | Loke  | P. (a)   |  | 1607                       |  | i.  | 0.2.00.0                   | Clackomas Rive  | г  |
| 1 x c/2 5 0 0 2258   | 2222393  | Si5 20 GIB Warner                                   | 18G7 Ahrord  | • ISGIO  | 16618                      |  |   | 21013                      | Glackamas Lake  | 25 6S 7E 21<br>35 5S 8½E 34<br>29 4S 9E 35             |
| The state of the s | 2205   Upoer   2165   2006   | 2090  | Trou   | 1702 (1706 Owyhee  |                            |  |   | 21D14*                     | Lake Harriet Peavine Ridge 14 &                         | 29 48 9E 35<br>4 6S 7E 20<br>15 6S 7E 35<br>6 3S 9E 56 |
| 225-0 223-0 223-0 223-0  | 254 Res  | • 20G8 Guano  | Trees 1803 IRM                                     | 1785   | Anon                       |  | 42"   | 2109                       | Still Creek   | 25 3S 8½E 370<br>26 5S 8E 320                          |
| 224 222  | 2106 2009  | 20G16 20H3 19H4                                     | 1806 1803 18HI                                     | 17H8 SELIT   | 16H8                       | 015H2D<br>15H4 15H1●016H2  |   | 22E3                       | Santiam River<br>Detroit (town)                         | 1 10S 5E 16  |
| G A  | C P GO RECORD L  | 19H4 <sub>5</sub> H 0 E                             | n e  | V 17H10A D A   | TOTAL K                    | o 15H5€ •15H3  | 1   | 21E6                       | Hogg Pass   | 7 10\$ 5E 150<br>24 13\$ 7½E 479<br>28 11\$ 7E 279     |
|  |  |   |  | 17H4•17H3  | 16HE<br>16HZ               | 15H5,15H7  |   | 22E3                       | Hill Gity<br>Sentiem Junction                           | 29 9S 3E 82<br>14 13S 7E 399                           |
|  |  | 20 0 20   | 40 60  | 17H5®  | 16H7                       | 1014   |   | 21E3                       | Whitewater Bridge<br>McKenzie River                     | 28 10S 7E 213  |
|  |  | SCALE IN MI   | ILES   | ●I8H3  |                            | ●15H8<br>15H9  |   | 22E4                       | Lost Greek Ranch  | 13 16S 7E 380<br>24 16S 6E 195<br>35 15S 7EE 480       |
| 23 22  | 22" 121"   | ) 19  | 18 IIe <sub>4</sub>                                | 17   | 16                         | 15   | 14  | 22E5 N                     | McKenzie Bridge   | 13 16S 5E 137<br>28 16S 2E 80<br>15 16S 7E 280         |
|  |  |   |  |  | 20                         | 10   |   | 21E9 h                     | White Branch Slide                                      | 700 27 000   |
| . MAKEDI TE MEKALITIKE SOIL OF MERVATION SERVICE   | Anderhamma case uses M-1874  |   |  |  |                            |  |   |                            |   |  |
|  |  |   |  |  |                            |  |   |                            |   |  |

| EV.      | NUMBER           | NAME  | 1.44   |                 |  |                    |                  |
|----------|------------------|---|--|-----------------|--|--------------------|------------------|
| 30       |                  |   | LOCATION ELEV.   | NUMBER          | NAME   | LOCATION           | EL               |
| 00       |                  | UPPER JOHN DAY WA   | TERSHEDS (4)   |                 | M2 1 11  | SEC. THP.          | RQE.             |
| 00<br>90 | 19D2P            | Upper John Day  | River  | 22F3            | Middle Fork Willame  | tte River          |                  |
| 40       | 1902P<br>18D12M  | AFBlick A Mountain  |  | 22F6            | Cascade Summit<br>McCredie Springs   | 7 238              | 6E 48            |
|          | 1982M            | Beech Con-  | 33 4S 29E 5400<br>29 3S 31E 4340                                 | 22F8            | Meridian Dam   | 36 21S<br>13 19S   | 4E 21            |
| 00       | 18E16M1          | Dide Monntain C   | 4 12S 30F /800   | 22F7<br>22F5    | Oakridge   | 16 218             | 1W 7             |
| 00       | 18E13M<br>19E3MP | Plue Hountain Summit  | 21 15S 35E 5900  | 22F4            | Railroad Overpass<br>Salt Creek Falls  | 21 22S             | 5E 27            |
|          | 18£27a           | Derr<br>East Fork Canyon  | 12S 36E 5098<br>14 13S 23E 5670                                  | 22F2 P          | Waldo Lake   | 32 22\$<br>15 21\$ | 5 E 40           |
| 30       | 18E8             | UOIG Gentan   | 15 15S 32E 5700  | 22F14 *         | Willamette Pass  | 33 248             | 6E 55            |
| 00       | 18E24a<br>19E9P  | Indian Cr. Dust.  | 21 9S 36E 5340   |                 | Coast Fork Willame   | tte River          | 72- 70           |
| 25       | 18D6 P           | 1200 Summit   | 5 15S 33E 6550<br>28 16S 29E 5293                                | 22F9            | Ghampion   | 12 23\$            | 37 10            |
| 70<br>00 | 20ELMP           | Lucky Strike<br>Marks Creek   | 28 3S 32E 5060   | 22F10<br>22F13  | Golden Curry Creek   | 1 238              | 1E 45            |
| 00       | 2082             | Ochoco Meadows  | 25 12S 19E 4540  | 22F12           | Layng Creek R. S.<br>Lund Park   | 31 218             | 1E 12            |
| 0        | 18E7<br>18D7     | Ulive Lake  | 21 13S 20E 5200<br>14 9S 34E 6000                                | 22F11           | Weaver Creek   | 22 22S<br>35 22S   | 1E 17            |
| 00       | 19F1M            | Schoolmarm<br>Snow Mountain   | 28 4S 34E 4775   |                 | Mary's River   |                    | 1E 24            |
| 50       | 19E7M            | Starr Ridge   | 1 19S 26E 6300   | 23E1            | Mary's Peak  |                    |                  |
| 75       | 18E9<br>18E25MF  | Tipton  | 20 15S 31E 5150<br>34 10S 35½E 5100                              |                 |  | 21 128             | 7W 36            |
| .0       | 777711           | Williams Ranch  | 20 15S 32E 4500  |                 | ROGUE, UMPQUA WAT  | ERSHEDS (9)        |                  |
| 0        |                  | UPPER DESCHUTES, CROOK  |  |                 | Rogue River  |                    |                  |
| 00       |                  | Unner Door bus  | ED WATERSHEDS (5)  | 2304<br>22G6    | Althouse   |                    | 7W 45            |
|          | 21E11            | Upper Deschutes   | River  | 22G28           | Annie Spring<br>Beaver Dam Creek   |                    | 6E 60            |
| 0        | 21F8             | Caldwell Ranch  | 14 16S 9E 4600   | 22G21P          | Big Red Mountain   | 1 38\$<br>31 40\$  | 4E 51            |
| 0        | 22F3             | Vascade Summit  | 30 21S 8E 4400<br>7 23S 6E 4880                                  | 22G13<br>22G30  | Billie Creek Divide  | 30 368             | 5E 53            |
| 0.       | 21F11<br>21F20P  | Chemult<br>Deer Creek   | 21 27S SE 4760   | 22027           | Caliban<br>Deadwood Junction   |                    | 1E 65            |
| - 1      | 21F14            | Fire Road   | 25 20S 7E 4554   | 22F19           | Diamond-Crater Summit  |                    | 4E 466           |
|          | 21E6             | Hogg Pass   | 36 21S 11E 5050<br>24 13S 74E 4755                               | 22G14P<br>22G12 | rish Lake  | 3 37S              | 4E 48            |
|          | 21F4<br>21F6 *   | Hungry Flat   | 24 13S 7½E 4755<br>30 18S 11E 4400                               | 23G3            | Fourmile Lake<br>Grayback Peak   |                    | 5E 600           |
| 0        | 21F17            | Irish-Taylor<br>Mowich  | 25 20S 6E 5500   | 22G26           | Howard Prairie   | , 400              | 5W 600<br>4E 450 |
| 0        | 21F10            | New Crescent Lake   | 29 25S 25E 4700  | 22G16<br>23G8   | Hyatt Prairie Reservoir<br>King Mountain No. 1   | 15 398             | 3E 490           |
| 0 '      | 21F19P           | New Dutchman Flat #2  | 11 24S 6E 4800<br>21 18S 9E 6400                                 | 2309            | King Mountain No. 1  |                    | 4W 480           |
| 5        | 21F13P<br>21F15  | raulina Lake  | 34 21S 12E 6330  | 23G10           | King Mountain No. 3  |                    | 4W 364<br>4W 259 |
| 0        | 21F3             | Paulina Prairie<br>Tangent  | 28 21S 11E 4285  | 23G11<br>22G22  | King Mountain No. 4  | 20 32\$            | 4W 170           |
| 0        | 21E15            | Three Creeks Butte  | 28 18S 10E 5400<br>27 16S 9E 5200                                | 22G31           | Little Red Mountain<br>Mt. Ashland Switchback  |                    | 2W 650           |
| 0        | 21E13<br>22F2 P  | Three Creek Meadows   | 34 16S 9E 5650   | 2305            | Page Mountain  |                    | 1E 640           |
|          | 22F14 *          | Waldo Lake<br>Willamette Pass   | 15 21S 6E 5500   | 22G5<br>22G10P  | Park Headquarters  | 8 31S              | 6E 64            |
| 0        | 22F15            | Windigo Pass  | 33 24S 5½E 5600<br>32 25S 6E 5800                                | 22G11           | Seven Lakes No. 1<br>Seven Lakes No. 2   |                    | 5E 680           |
|          |                  |   | JE 230 OE, 3000  | 22G2            | Silver Burn  |                    | 5E 620<br>4E 372 |
| J        |                  | Crooked Rive  | r  | 22G20<br>22G32  | Siskiyou Summit  | 17 40S             | 2E 46;           |
|          | 19E3MP           | Derr  | 14 13S 23E 5670  | 2269            | Ski Bowl Road<br>South Fork Canal  |                    | 1E 600<br>3E 350 |
| 0        | 20E1H P<br>20E2  | Marks Creek<br>Ochoco Meadows   | 25 12S 19E 4540  | 22G1            | Whaleback  |                    | 3E 350<br>2E 512 |
| 5        | 19F1M            | Snow Mountain   | 21 138 20E 5200<br>1 19S 26E 6300                                |                 | Umpqua River   |                    |                  |
|          | 19E4             | Tamarack  | 8 15S 25E 4800   | 22F9            | Champion   |                    | 1E 450           |
|          | HOOD             | HALL CREEKS I SHOW  |  | 22F18P          | Diamond Lake   | 29 278             | 6E 531           |
|          | 11000,           | MILE CREEKS LOWER DESCH   | IUTES WATERSHEDS (6)   | 23G7<br>22F16   | Eden Valley Summit<br>North Umpqua   |                    | OW 239<br>6E 421 |
|          | 027/-            | Hood River  |  | 22F23           | Red Butte No. 1  | 36 27S             | 2W 456           |
|          | 21D6F<br>21D25M  | Brooks Meadows<br>Cooper Spur   | 2 2S 10E 4300  | 22F24<br>22F25  | Red Butte No. 2<br>Red Butte No. 3   |                    | 1W 400           |
|          | 21D1             | Greenpoint Reservoir  | 6 2S 10E 3490<br>28 2N 9E 3400                                   | 22F26           | Red Butte No. 4  |                    | 1W 350<br>1W 300 |
|          | 21D20            | Knebal Springs  | 31 1S 11E 3850   | 22F27           | Red Butte No. 5  | 20 278             | 1W 250           |
|          | 21D23<br>21D8 *  | Parkdale<br>Phlox Point   | 6 1S 10E 1770  | 22F28<br>22F17  | Red Butte No. 6  |                    | 1W 200           |
|          | 21D4             | Red Hill  | 6 3S 9E 5600<br>20 1S 9E 4400                                    | 22G1            | Trap Creek<br>Whaleback  |                    | 4E 380<br>2E 514 |
|          | 21D9             | Still Greek   | 25 3S 8½도 3700   | 22F15           | Windigo Pass   |                    | 6E 580           |
|          | 21D7<br>21D21    | Tilly Jane<br>Ulrich Ranch Junction   | 15 2S 9E 6000  |                 | VI ALIATII WATERCHE  |                    |                  |
|          | 21D30            | Umbrella Falls  | 28 1S 11E 3350<br>3 3S 9E 5400                                   | }               | KLAMATH WATERSHE   |                    |                  |
|          | 21D24            | Upper Valley  | 20 IS 10E 2530   |                 | Klamath River  |                    |                  |
|          | 21D28            | Switchback  | 28 1S 9E 3255  | 22G6            | Annie Spring   | 19 318 6           | E 601            |
|          |                  | Mile Creeks - Mos   | er Creek   | 22G13           | Billie Greek Divide  | 30 36S 5           | E 5300           |
|          | 21D6P            | Brooks Meadows  | 2 2S 10E 4300  | 21G5<br>21F11   | Ghemult 15 &   | 22 375 11          | E 5090           |
|          | 21D20<br>21D21   | Brooks Meadows<br>Knebal Springs<br>Ulrich Ranch Junction   | 31 18 11E 3850   | 22G24 »         | Gold Springs Gamp  | 12 35S 5           | E 6100           |
|          | STRST            |   |  | 20G12a<br>20H2a | Grazyman Flat  | 9 348 15           | E 6100           |
|          |                  | Lower Deschutes   |  | 22F19           | Diamond-Crater Summit  | 30 47N II          | E 5200<br>E 5806 |
|          | 21D12            | Glear Lake  | 29 4S 9E 3500  | 21F18           | Diamond Lake Jct. (97)   | 1 298 7            | E 4600           |
|          | 21D22<br>21E6    | Glear Lake Experimental<br>Hogg Pass  | 29 4S 9E 3500<br>24 13S 7½E 4755                                 | 21G6a<br>20G14a | Dog Hollow   | 1 408 14           | E 4900           |
|          | ~1.00            |   |  | 22612           | Fourmile Lake  | 9 36\$ 5           | E 6000           |
|          |                  | LOWER COLUMBIA WAT  | EKSMEDS (7)  | 21G4P           | Gerber   | 12 398 131         | E 4850           |
|          |                  | Sondy River   |  | 22G16<br>22G26  | Hyatt Prairie Reservoir  | 15 398 31          | 2 4900           |
|          | 21D8 °           | Phlox Point<br>Still Greek  | 6 38 9E 5600   | 22G15           | Lake of the Woods  | 11 378 57          | E 4960           |
|          | KIDA             |   | 25 3S 8½E 3700   | 2205            | Park Headquarters  | 8 31S 6E           | 6450             |
|          |                  | WILLAMETTE WATERS   |  | 22G25<br>20G6MP | Pelican Guard Station  | 9 368 61           | 5 4150<br>7 5320 |
|          |                  | Clackomas Riv   | er   | 22G10 P         | Seven Lakes No. 1  | 3 34\$ 5F          | 6800             |
|          | 21D15            | Big Bottom  | 25 6S 7E 2118<br>35 5S 8½E 3400<br>29 4S 9E 3500<br>4 6S 7E 2045 | 22G11           | Seven Lakes No. 2  | 26 33S 5E          | 6200             |
|          | 21D13<br>21D12   | Glackamas Lake<br>Clear Lake  | 29 /S 9E 3500  | 20Hla<br>20G9AP | Strauberry (USI)   | / 48N 11E          | 5750             |
|          |                  | Lake Harriet  | 4 6S 7E 2045   | 20G2AP          | Summer Rim   | 15 33S 16E         | 7200             |
|          | 21D14*           | Peavine Ridge 14  | & 15 6S 7E 3500  | 2162            | Sun Mountain   | 22 328 72          | E 5350           |
|          | 21D8 #<br>21D9   | Lake Harriet Peavine Ridge 14 Phlox Point Still Creek Timothy Lake                                | 25 3S 84E 3700   | 20G13a<br>21G3  | Annie Spring Billie Greek Divide Bly Mountain 15 & Ghemult Gold Springs Gamp Grazyman Flat Growder Flat Diamond-Grater Summit Diamond-Grater Summit Diamond-Grater Summit Diamond-Grater Summit Diamond Lake Jct. (97) Dog Hollow Finley Gorrals Fourmile Lake Gerber Hyatt Prairie Reservoir Howard Prairie Lake of the Woods Park Headquarters Pelican Guard Station Quartz Mountain Seven Lakes No. 1 Seven Lakes No. 2 State Line Strauberry Summer Rim Sun Mountain Sycan Flat Taylor Butte | 22 33S 11F         | 5100             |
|          | 21D17            | Timothy Lake  | 26 5S 8E 3295  |                 |  | 7,50 2,210         |                  |
|          |                  | Santiam River   |  |                 |  |                    |                  |
|          | 22E3             | Detroit (town)  | 1 10S 5E 1610  |                 |  |                    |                  |
|          | 22E2             | Detroit Dam   | 7 10S 5E 1580  |                 |  |                    |                  |
|          | 21E6<br>21E4     | Hogg Pass   | 28 11S 7E 2730   |                 |  |                    |                  |
|          | 22E3             | Mill Gity   | 29 9S 3E 826   |                 |  | M                  | ap               |
|          | 21E5             | Detroit (town) Detroit Dam Hogg Pass Marion Forks Mill Gity Santiam Junction Whitewater Bridge    | 14 13S 7E 3990   |                 |  | TAT                | aP               |
|          | 21E3             | Whitewater Bridge   | 28 108 7E 2175   |                 |  |                    |                  |
|          |                  |   |  |                 |  |                    |                  |
|          | 21E8             | Dead Horse Grade<br>Lost Greek Ranch<br>McKenzie<br>McKenzie Bridge<br>Vida<br>White Branch Slide | 13 16S 7E 3800<br>24 16S 6E 1956                                 |                 |  |                    |                  |
|          | 22E4<br>21E7     | McKenzie  | 35 15S 7½E 4800  |                 |  | F                  |                  |
|          | 22E5             | McKenzie Bridge   | 13 16S 5E 1372<br>28 16S 2E 800                                  |                 | $\Omega$ R   | EGO.               | N:               |
|          | 22E6             | Vida  | 28 16S 2E 800<br>15 16S 7E 2800                                  |                 | O.C.   | J O O.             | - 4              |
|          | 21E9             | MILLOS DI GDION DILLOS  |  |                 |  |                    |                  |

| LOCATION                                      |   |                      |
|---|---|----------------------|
| LOCATION ELEV.                                | NUMBER NAME   |                      |
| metre River                                   | I OCATIO  | age.                 |
| 7 200   | Pacific Power and Light Campan  |                      |
| 36 21S 4E 2120                                | snaw stations   | y >                  |
| 13 19S 1W 750                                 | 1 Beatty (PP&L) 22 36S  | 12E 4300             |
| 16 21S 3E 1310<br>21 22S 5E 2750              | 3 Chiloquin (PP&L) 22 35S   | 14E 4800             |
| 21 22S 5E 2750<br>32 22S 5\{\frac{1}{2}E 4000 | 4 Crystal (PP&L) 34 34S   |                      |
| 15 21S 6E 5500                                | 5 Fort Klamath (PP&L) 26 348<br>6 Kirk (PP&L) 22 338  | 6E 4200<br>7½E 4150  |
| 33 24S 5½E 5600                               | 6 Kirk (PP&L) 22 338<br>9 Quartz Mountain (PP&L) 1 338  | 7E 4533              |
| nette River                                   |   |                      |
| 12 23S 1E 4500                                | 12 Yamsey (PP&L) 3 365<br>20 31\$   | 6E 4200<br>11E 4600  |
| 1 23S 1E 3136<br>31 21S 1E 1200               |   |                      |
| 22 22S 1E 1740                                | LAKE COUNTY, GOOSE LAKE WATERSHI  | EDS (11)             |
| 35 22S 1E 2440                                | Coose Loke   Coose   Coose Loke   Coose   Coose Loke   Coose   Coose  |                      |
| er  | 2008MF   Camas Creek   27 368   2008MF   Camas Creek   5 398   20016a   Crane Mountain   13 408   2016a   Crouder Flat   (Cal) 30 47N   2017a   Patton Meadow   (Cal) 31 48N   2017a   Patton Meadow   (Cal) 31 48N   2017a   Patton Meadow   (Cal) 31 48N   (Cal) |                      |
| 21 12S 7W 3620                                | 2001la Cox Flat 5 398<br>20016a 16 378  |                      |
| ATERSHEDS (9)                                 | 20G16a Crane Mountain 13 40S  | 18E 5750<br>21E 6020 |
|   | 20H3a Dismai Syamp (Cal) 30 47N   | 11E 5200             |
| er  | 20G17a Patton Meadow 28 38S   | 16E 7200<br>18E 6800 |
| 17 41S 7W 4530<br>19 31S 6E 6018              | 2006MP Quartz Mountain 2 38S  | 16E 5320             |
| 1 38S 4E 5100                                 | 2009AP Strauberry (Cal) 21 48N  | 11E 5750             |
| 31 40S 1W 6500                                | 4 40S   | 16E 5760             |
| 30 36S 5E 5300<br>16 40S 1E 6500              | Abert Lake  |                      |
| 8 38S 4E 4600                                 | 20G18AP Colvin Creek 27 36S   | 19E 5900             |
| 34 28S 6E 5800                                | 20G11a Cox Flat 16 37S  | 21E 6550<br>18E 5750 |
| 3 37S 4E 4865<br>9 36S 5E 6000                | 20Gl/4e Finley Correls 11 36S   | 18E 5750<br>16E 6000 |
| 9 36S 5E 6000<br>9 40S 5W 6000                | 20G4 Mill Creek 1 34S   | 17E 6200             |
| 32 38\$ AE /500                               | 20015a   Bear Flat Meadow   27 36S  | 16E 5320             |
| 15 39S 3E 4900                                | 15 5/5  | 21E 6600             |
| 8 33S 4W 4800<br>33 32S 4W 3646               | Summer Lake   |                      |
| 33 32S 4W 3646<br>29 32S 4W 2550              | 15 338  | 16E 7200             |
| 20 32\$ 4W 1779                               | Silver Lake   |                      |
| 25 40S 2W 6500                                | 21F12P         Silver Creek         25 & 26         29S           20G13a         Sycan Flat         25 3lS  | 13E 4900             |
| 15 40S 1E 6400<br>8 41S 7W 4045               | 20013a Sycan Flat 25 31S  | 14E 5500             |
| 8 31S 6E 6450                                 | Warner Lake   |                      |
| 3 34S 5E 6800                                 | 20G8MP Camas Creek 5 39S  | 21E 5720             |
| 26 33S 5E 6200<br>30 30S 4E 3720              | 20Gloa Crane Mountain 13 40S  | 21E 6020             |
| 30 30S 4E 3720<br>17 40S 2E 4630              | 19Gla Hart Mountain 1 36S   |                      |
| << 4US 1E 6000                                | 2008MP 20016a         Camas Creek 20016a         5 39S           20016a 2016a         Crane Hountain 2016a         13 40S           2016a 2016a         Dismal Swamp 2016a         Cal 31 48N           1901a Hart Mountain 1 36S         136S           20010a Sherman Valley 15 37S   | 25E 6350<br>21E 6600 |
| 12 33S 3E 3500                                | Guano Lake  |                      |
| 3 31S 2E 5140                                 | 19Hl Bald Mountain (Nev) 17 45N   | 21E 6720             |
| er  |   | 25E 6350             |
| 12 23S 1E 4500<br>29 27S 6E 5315              | 19H4a Little Bally Mt. (Nev) 8 45N  | 19E 6600             |
| 29 27S 6E 5315<br>10 32S 10W 2390             | HARNEY BASIN WATERSHED (12)   |                      |
| 19 26S 6E 4215                                | Silvies River - Silver Creek  |                      |
| 36 27S 2W 4560                                | 18F7a         Call Meadows         29         20S           19F2         Delintment Lake         28         196           19F3         Enigrant Butte         14         21S           18F3P         Idlewild Camp         27         20S           1959P         Izee Summit         28         16S           18F1         Rock Spring         23         18S  | 33E 5340             |
| 30 27S 1W 4000<br>30 27S 1W 3500              | 19F2 Delintment Lake 28 19S<br>19F3 Emigrant Butta 1/ 21S   | 26E 5600             |
| 36 27S 1W 3000                                | 19F3         Emigrant Butte         14 21S           18F3P         Idlewild Camp         27 20S   | 27E 5000<br>31E 5200 |
| 20 27S 1W 2500                                | 19E9P Izee Summit 28 16S  | 29E 5293             |
| 17 27\$ 1W 2000<br>1 27\$ 4E 3800             | 18F1 Rock Spring 23 18S   | 32E 5100             |
| 1 27S 4E 3800<br>3 31S 2E 5140                | 1987M Starr Ridge 20 150  | 26E 6300<br>31E 5150 |
| 20 25S 6E 5800                                | 19E9P   Izee Summit   28   16S   18F1   Rock Spring   23   18S   19F1M   Snow Mountain   1   196   19F1M   Starr Ridge   20   15S   18F4MP   Stinking Water   33   21S   19F4m   Willow-Bald   19   22S   | 34E 4800             |
|   | 19F4m Willow-Bald 19 22S  | 29E 5000             |
| HEDS 1101                                     | Donner Und Blitzen River  |                      |
| er .  | 18F6a Buck Pasture 21 29S   | 35E 5700             |
| 19 31S 6E 6018                                | 18G2MAP Fish Creek 4 33S  | 32∮E 7900            |
| 30 36S 5E 5300                                | 19Gla Hart Mountain 1 36S<br>18GlMA Silvies 35 32S  | 25E 6350<br>32E 6900 |
| & 22 37S 11E 5090                             |   | 32 3E 6600           |
| 21 27S 8E 4760<br>12 35S 5E 6100              | Traut and Whitehorse Creeks   | ,                    |
| 9 348 15E 6100                                |   | 34E 6000             |
| ) 30 47N llE 5200                             |   | 34E 6500             |
| 34 28S 6E 5800<br>1 29S 7E 4600               | 17G5a Oregon Canyon 9 40S   | 40E 6950             |
| 1 40S 14E 4900                                |   | 38E 7800             |
| 11 36S 16E 6000                               | Harney Lake   |                      |
| 9 36S 5E 6000<br>12 39S 13E 4850              | 18G8a Buckskin Lake 2 30S   | 30E 5200             |
| 12 39S 13E 4850<br>15 39S 3E 4900             | LEGEND  |                      |
| 32 38S 4E 4500                                | 1902 SNOW COURSE ONLY   |                      |
| 11 37S 5E 4960                                | 1902M SNOW COURSE AND SOIL MOISTURE   |                      |
| 8 31S 6E 6450<br>9 36S 6E 4150                | 1902MA SHOW COURSE, SOIL MOISTURE AND AER   | IAL MARKER           |
| 2 38S 16E 5320                                | 1902A SNOW COURSE AND AERIAL MARKER   |                      |
| 3 34S 5E 6800                                 | 1902m SOIL MOISTURE ONLY  |                      |
| 26 33S 5E 6200                                | 1902 AERIAL MARKER ONLY   |                      |
| 21 48N 11E 5750<br>4 40S 16E 5760             | 1902P SNOW COURSE AND PRECIPITATION GAGE  |                      |
| 15 33S 16E 7200                               | 1902p PRECIPITATION GAGE ONLY  RADIO TELEMETRY  |                      |
| 22 32S 7±E 5350                               |   |                      |
| 25 31S 14E 5500<br>22 33S 11E 5100            |   |                      |
| 7. 750 110 7100                               |   |                      |
|   |   |                      |
|   |   |                      |
|   |   |                      |

Map and Index to REGON SNOW COURSES



# The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon State University
Oregon State Engineer and Corps of State Watermasters
Oregon State Highway Engineers
Soil and Water Conservation Districts of Oregon

Douglas County Water Resources Survey FEDERAL

Department of Agriculture
Cooperative Extension Service
Forest Service
Soil Conservation Service
Department of Commerce
Weather Bureau
Department of the Interior

Department of the Interior
Bonneville Power Administration
Bureau of Land Management
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
National Park Service
Department of National Defense

Corps of Army Engineers
PUBLIC UTILITIES

Pacific Power and Light Company Portland General Electric Company California-Pacific Utilities Company

MUNICIPALITIES

City of Baker City of La Grande City of The Dalles City of Walla Walla

IRRIGATION DISTRICTS

Arnold Irrigation District Associated Ditch Companies Burnt River Irrigation District Central Oregon Irrigation. District East Fork Irrigation District Grants Pass Irrigation District Hood River Irrigation District Jordan Valley Irrigation District Juniper Flat Irrigation District Lakeview Water Users, Incorporated Medford Irrigation District Middle Fork Irrigation District North Board of Control - Owyhee Project North Unit Irrigation District Ochoco Irrigation District Rogue River Valley Irrigation District South Board of Control - Owyhee Project Squaw Creek Irrigation District Talent Irrigation District Tumalo Project Vale-Oregon Irrigation District Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
Amalgamated Sugar Company
The Crag Rats, Hood River, Oregon

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supply, hydro-electric power water supply for irrigation, necessary for forecasting generation, navigation, Furnishes the basic data mining and industry

"The Conservation of Water begins with the Snow Survey"

COOPERATIVE SNOW SURVEYS domestic and municipal water